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FOR

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NATURAL FOOD AND CARE FOR CHILD AND MOTHER

NATURAL FOOD AND CARE
FOR
CHILD AND MOTHER

PRESENTATION OF A SYSTEM WHICH MAKES
SAFE AND HEALTHFUL THE
GRATIFICATION OF THE NATURAL APPETITE

Including Questions and Answers
for the Aid of Mothers and
Children's Nurses

By
SUSAN HARDING RUMMLER
Ph. B., University of Chicago, Post-Graduate in Neurology, Psychology, and Philosophy, Mother of Four Children

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1919

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TO YOUNG MOTHERHOOD

WHICH IS OPEN TO ALL TRUTH, AND WHICH, BY SELECTING AND REJECTING IN THE SOLUTION OF OLD AND NEW PROBLEMS, CONTRIBUTES CONSTANTLY TO KNOWLEDGE

This Work
Is Respectfully Dedicated
By the Author

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PREFACE

THIS work is based on the belief that whereas each new human being is in a measure a law unto himself, there are certain fundamental principles of right living which are true for all. These fundamental principles may be stated as follows: (1) Nature may be approached but never surpassed; (2) Nature presents a law, kind and forgiving, although in the main immutable; (3) obedience to the laws of Nature tends towards Health and Happiness; (4) disobedience to the laws of Nature brings unnatural results, even to disease and death.

Accordingly, Right Living means, in general: (1) Preferring the Natural to the Artificial; (2) seeking and recognizing Nature, and placing faith in its power to heal and restore; (3) believing that there is no "Royal Road" to Health and Happiness, and that the only way is obedience to Nature's Laws; (4) Acting on the belief that only the removal of the causes of illness, the ceasing of disobedience to the laws of Nature, can permanently cure disease.

The purpose of this book is: (1) to help others to discover for themselves the laws of Nature as they apply to their particular problems; (2) to encourage them never to lose faith in Nature, but to fear, trust, and reverence it beyond all human and artificial means; (3) not to become a stumbling block to any by inducing them to accept, for all cases, what merely seems the truth in the case of any one individual. Hence, the

author invites the critical attitude, which experiments and discovers for itself, merely offering her own testimony and beliefs, based on practical experience, in the hope that they may be helpful to others in the never-ending search for Truth.

The author's aim has been to furnish mothers in all circumstances with an easy, rational system of feeding and caring for the child, eliminating as far as possible the artificial, and thereby assisting motherhood to become simpler and more pleasurable, as it was intended to be.

The needs of the well child have been considered. The pathological and abnormal, beyond what can be corrected by right living, should of course be referred to those who are experienced in such cases.

The welfare of mother and infant are so inseparable, that consideration of the care of the child naturally involves that of the mother, especially during pregnancy. It is, therefore, the needs of the pregnant mother which have been considered before all else.

S. H. R.

CHICAGO, *March, 1919.*

NATURAL FOOD AND CARE FOR CHILD AND MOTHER*

I.

THE PRENATAL CARE OF THE CHILD

PREGNANCY

When should the care of the child begin?

At least with the mother's pregnancy. Bad habits before pregnancy may cause some suffering and even permanent injury, in spite of correct living during pregnancy, although the body responds wonderfully to a return to Nature.

What is of the greatest importance at this time?

Good out-door air. Man can live a considerable period without food, only a few days without water, and a very few minutes without air. Accordingly the pregnant mother should take plenty of active exercise (at least two hours daily if conditions are normal) in the open air, if possible, so as to insure vigorous respiration and circulation. If her

*Please read the Preface first.

occupation absolutely forbids this, she should have at least two windows on the premises somewhat open, according to the weather. Very disagreeable odors, especially noxious gases, are peculiarly injurious during pregnancy. The injurious effects of some gases (even in small quantities), which have practically little or no odor, such as sewer gas, are generally recognized. It is not generally known that the suffocating air due to wet concrete (new, damp, or even very slightly moistened), which rises from basements, not to mention the air from infective cellars, is a frequent cause of illnesses, such as dyspepsia, asthmatic and bronchial affections, as well as inflammatory ailments, like inflammatory rheumatism. This is said to be due in part to the effect of lime salts, which are liberated from moist concrete.

Why is good air so important at this time?

The only oxygen the fetus gets is through the mother's blood, accordingly her lungs must perform the function of blood purification for two organisms. A sickness like pneumonia, which interferes with proper oxygenation, is very likely to destroy the unborn child, resulting in abortion or miscarriage.

It is stated by Dr. R. T. Trall that such diseases as hydrocephalus, peculiar to infancy and sometimes commencing in the fetus, are caused among other things "by frequent exposure of the mother during pregnancy, or of the child soon after birth, to the powers of narcotic poisons, particularly tobacco."

No doubt other air-infecting nuisances such as slaughter houses, distilleries, rendering plants, etc., have much to do with the great infant mortality in large cities where the large number of still-born constitutes by far the largest proportion of infant mortality. The air passages, irritated by extraneous particles in such impure air, spasmodically contract to keep them out. The result is, pregnant mothers, even if their lungs do not become diseased, do not breathe sufficiently, and in consequence there is a high percentage of still-born.

What is recommended in regard to drink for the pregnant mother?

She should take plenty of water, at moderate temperature, and unadulterated fruit juices, if palatable, when not artificially sweetened. A little raw milk, if greatly craved is permissible but not advisable.* Chocolate, cocoa and

*See Addenda 269.

occupation absolutely forbids this, she should have at least two windows on the premises somewhat open, according to the weather. Very disagreeable odors, especially noxious gases, are peculiarly injurious during pregnancy. The injurious effects of some gases (even in small quantities), which have practically little or no odor, such as sewer gas, are generally recognized. It is not generally known that the suffocating air due to wet concrete (new, damp, or even very slightly moistened), which rises from basements, not to mention the air from infective cellars, is a frequent cause of illnesses, such as dyspepsia, asthmatic and bronchial affections, as well as inflammatory ailments, like inflammatory rheumatism. This is said to be due in part to the effect of lime salts, which are liberated from moist concrete.

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the like, are usually combined with artificial extracts like sugar, and are too rich to drink habitually. Tea, coffee, and alcoholic drinks are too stimulating for the pregnant mother and lead to irritability and various excesses.

Why is artificially sweetened fruit juice injurious?

The artificial sweetening of sour foods in general, cheats the appetite into allowing that which contains too much acid; besides, the combination of fruit and artificial sugar extract produces fermentation.

What is the advice in regard to food for the pregnant mother?

She should take only natural food, i. e., *containing elements as nearly as possible in the proportions in which Nature provides them,* and avoid as much as practicable all artificial extracts and mixtures.

To illustrate what is meant by natural food in contradistinction to artificial products, let us consider sugar. Natural sugar is a very necessary element, which Nature provides in mother's milk, cow's milk, sweet fruits, vegetables, grains, etc. Artificial sugar extract or commercial sugar, is not found in that form in

Nature. The most familiar to us, the granulated and pulverized sugar of our tables, is artificially extracted from the sugar cane or sugar beet. To claim that, because natural organically combined sugar is wholesome and essential, hence the artificial extract is likewise wholesome and essential, is as erroneous as to claim that the iron extract of the druggist is healthful and essential because certain foods are healthful and essential, which contain iron, combined organically in the proper proportions with other elements, which belong with it as in beets, grapes, etc. *The sugar cane* eaten in bulky form, as it grows, *contains potassium salts and other elements combined with cane sugar making it wholesome, whereas the so-called "purest" sugar extract,* be it cane, beet, or any other sugar extract, *is pure in the sense of a refined element, injurious largely because it is so refined and concentrated.* (*See* Addenda 267.)

Should fruits, vegetables and cereals be flavored?

They should not be cooked or eaten with artificial sugar, especially by persons in a delicate condition, as is the case in pregnancy and

in infancy. This combination results in fermentation, producing in the system an unnatural acid, which undermines the tissues and causes numerous morbid conditions and catarrhal trouble, destroying the wholesome effect of the natural sugar and acid of the fruit, and vastly reducing the value of vegetables and cereals.

The use of sugar extract in baking bread is bad, especially in yeast bread. The artificial sugar combined with the yeast, increases vinous fermentation producing carbon dioxide (the leaven) and alcohol, but does not replace the natural sugar of the grain, which is converted by yeast fermentation.

The use of flavoring extracts should also be discouraged, since they often contain alcohol and other injurious extracts.

What rule should be followed in regard to the use of butter and seasonings?

The cooking of butter and other animal fats into vegetables, cereals, etc., makes them less digestible and has a peculiarly irritating effect on the mucous membrane. This is one great cause of heartburn and nausea in pregnancy, especially in the later stages.

There is plenty of natural salt in nearly all foods in the proportion Nature intends. An excess of salt—which is the result when extraneous salt is used—is an irritant in the system producing various disturbances, among which is a tendency to putridity, as evidenced in some kinds of abscesses, "broken breast," etc. Certain animals seek salt licks only in the warm season, when worms and vermin are plentiful. Dr. H. O. Beeson says:

> "All supplementary salt with food is superfluous and distinctly harmful to digestion. Salt with food in the proportion of four parts, or less, to the 1,000 is beneficial to digestion, but beyond six parts to the 1,000 it is positively harmful. Our daily average consumption is, approximately, 22.5 parts to 1,000."

The above quoted writer claims that supplementary salt with food "renders the blood pathological, inhibiting both assimilation and disassimilation by the damage to the red cells."

It is well known that the habit of high seasoning and of using preservatives and spices in the preparation of food is one cause for hardening of the arteries.

What is the advice in regard to cereals?

Choose flours of the natural entire grain in preference to constipating grain extracts such as fine white flour, cornstarch, etc.

Unpolished rice has been recommended for use during pregnancy as the grain which is the least likely to make the child's bones hard and unyielding. The next recommended in order of preference are corn, wheat, oats, rye and barley. Cereals, in whatever form eaten, either as flour (baked, cooked or steamed) or grains likewise prepared, or machinery-prepared grains, commonly known as "breakfast cereals," are best digested when eaten dry.

Why should cereals be eaten dry?

So as to insure thorough mastication. The saliva is an important digestive fluid which converts starchy food into soluble starch and prepares it for further digestion.

Horace Fletcher, as stated in his "A. B.-Z. of Our Own Nutrition," has proven that it is the dryness of food which excites the salivary glands, and that hunger is essential for the natural flow of the gastric juice. Accordingly, the habit of always waiting for hunger, and never eating starches artificially moistened, not

to mention artificial products, will do much toward insuring perfect digestion. Dried bread, either oven-dried or otherwise, and other dry preparations of whole grains, such as dry, unsalted pretzels (at least one day old when eaten), are a cure for not only anemia (bloodlessness), but for the morbid craving for artificial sugar and unnatural sweets. This fact is due to the perfectly nourished condition resulting from the thorough mastication of proper food. The prevalence of the use of mushy breakfast foods by this generation, is one important reason why the world's consumption of artificial sugar extract has more than doubled in the last twenty-five years.

What is the advice in regard to animal food?

Choose nuts and well cooked beans, peas, etc., in preference to much animal food, such as meat, eggs, cheese, butter, milk, etc.

The value of animal food has been greatly overestimated because in wasting diseases, like tuberculosis, the taking of such food has seemed to delay the ravages of the disease, and because it has not been generally realized that there are many other foods of equally as great,

if not greater, value as tissue builders and energy producers.

The average person eats more meat than is wholesome. Such meat-eating habits, together with the taking of concentrated extracts, such as artificial sugar, etc., are the reason why urine examinations all through pregnancy have come to be regarded by many persons as a necessary precaution.

Should pork products be included in the diet during pregnancy?

No. Among animal foods, pork is especially likely to be diseased, inducing inflammatory troubles. Dr. R. T. Trall, in his Encyclopedia, says:

> "Omnivorous animals that eat indiscriminately, vegetables or other animals, are far inferior to the purely herbivorous as food for human beings. Of the hog, whose filthy carcass is converted into a mass of disease by the ordinary fattening process, I can only express my abhorrence. Although swine flesh and grease under the name of pork and lard are staple and favorite articles of food throughout Christendom,

> *common observation* has long since traced the prevalence of scrofula, erysipelas, and a variety of glandular and eruptive diseases resulting from impure blood, to their general employment."

Scarlet fever and measles are glandular and eruptive diseases.

The use of pork, lard, etc., induces acute swelling of the feet in pregnancy. Such symptoms are not natural and are the result of unnatural habits.

What is the cause of varicose veins?

The danger of inflammation of the veins, childbed fever, and other inflammatory diseases is greatly reduced by natural, hygienic living during pregnancy. Dr. Trall names, in mentioning special causes for varicose aneurism:

> "Injuries, blows, falls, violent exertions, mental excitements and above all, *obstructing, concentrated* and *greasy* food, which thickens the blood and increases the labor of the heart and arteries in propelling it."

Pregnancy is often regarded as the direct cause of varicose veins. The attendant symptom,

vertigo, denoting biliousness, shows a viscous condition of the blood (the real cause), which requires only the unusual pressure of pregnancy to produce more distinct morbid symptoms. A diet, including plenty of acid fruit, and abstaining from foods which produce biliousness, avoiding especially all kinds of animal fats, greatly reduces the discomfort and danger from varicose veins in pregnancy.

What are the chief artificial extracts to be avoided during pregnancy?

Avoid especially such artificial products as sugar extract, and vinegar, as well as alcohol. The injurious effects of alcohol have come to be generally recognized, whereas artificial sugar, like salt, has come to be regarded as a commodity, and the habit of mixing vinegar with food, and of mixing sugar extract with staples, even bread, the staff of life, is a danger all the greater for not being recognized.

What is the effect of artificial sugar or molasses in bread?

They increase the fermentation produced by the yeast, even if used in a small amount. The result is more vinous (vinegar) fermentation,

breaking up, substantially, into alcohol and carbon dioxide. In properly baked bread the alcohol is said to disappear. The carbon dioxide furnishes the leaven. It is the fermentation which continues after bread is baked, which induces the indigestion and headache often experienced after eating fresh bread. Such bread causes acute heartburn in pregnancy.

What are the effects of vinegar and artificial sugar extracts during pregnancy?

Either alone or mixed in foods they produce acute heartburn, indigestion, nausea and many other morbid symptoms. Many women believe that violent vomiting has induced their abortions or miscarriages. The hyperacidity, inflammation, etc., from the modern habit of using the above mentioned products is largely responsible, not only for the destruction of the individual by tuberculosis and kindred diseases, but for race suicide, as it causes failure to fulfill the reproductive function all the way from acid sterility (well known in the case of cattle), up to failure to nurse infants the normal time.

What is a good substitute for vinegar?

Lemon is an agreeable, natural substitute, but the most perfect results follow the preferring of all food, home grown (belonging to the climate) and as nearly as possible in season.

What is recommended to take the place of sugar extract?

The substitution of other extracts, such as saccharine, malt sugar, etc., because of the known injurious effects of cane and beet sugar extracts, is a mistake since the chief harm of all of them, is the fact, that they are artificial extracts. It cannot be controverted that the use of concentrated carbohydrate extracts, such as artificial sugar, syrups, etc., like flesh eating, involve overeating. These are the foods that constipate, and in so doing—the daily pill notwithstanding—produce kidney trouble. The kidneys are taxed to help carry off solid waste matter, which if the food were less concentrated and not constipating, the bowels could eliminate. The most natural foods for man, as sweet fruits, fresh vegetables and coarse, dry grains are more bulky, and hence keep the

system open and diminish the likelihood of clogging the system. This is especially the case in the feeding of young children. Nature has well arranged it, that the pregnant mother and child are each a fairly safe guide as to what is wholesome for the other in the way of diet.

Are dried fruits a good substitute for artificial sugar extracts?

Dried fruits may be substituted in moderation until the morbid craving for artificial sweets is overcome by the thorough mastication of dry, starchy foods. However, some prunes, figs, dates and the like are prepared in syrups. Furthermore, in so far as they have lost much natural moisture, and have undergone a chemical change in the drying process they approach the nature of concentrated extracts. Hence, they should be used with moderation. Prunes which have not been merely dried but treated artificially often produce acute nausea in pregnancy. Pure honey, i. e., honey from bees which are not fed artificially on syrups, may be taken in moderation.

What should be the attitude toward morbid symptoms in pregnancy, such as heartburn, nausea and the like?

They should be regarded as a kind warning, but not counteracted by drugs. One should cultivate rather the power of observation in regard to individual peculiarities. Above all, the pregnant mother should not commit the sin of blaming Nature for the seeming faults of her system until she has brought it into obedience to those natural laws, in accordance with which it was created.

What is recommended in regard to clothing?

(1) The mother's clothing should be comfortably warm in winter; and light, exposing the skin to the air in summer. In general, avoid shivering and undue perspiring.

(2) Her clothing should be loose and suspended from the shoulders rather than the hips. Some recommend a maternity corset or abdominal support. It is to be regretted that such things are necessary, if they ever are.

(3) She should avoid high heels. These, together with any unnatural effort to stand so as to conceal one's condition, are harmful.

What is recommended in regard to bathing?

Bathing should be according to climate, season and the constitution of the individual. Warm baths are the most enervating. Cold sponge baths are preferable, and best of all are air baths and sun baths. Excessive bathing, beyond what is conducive to health, comfort, and cleanliness, belongs with luxurious living and indulgence in other excesses in the matter of eating and drinking.

What is recommended in regard to rest for the pregnant mother?

She should have plenty of sound sleep, preferably between sunset and sunrise. She should also recline at least one hour daily so as to relieve the nerves and muscles of the unusual pressure and weight. Cramps in the legs at this time are often due merely to the failure to lie down during the day. Laws have been passed in some states, forbidding the employment of women from four to six weeks before and after confinement. Instinct is the best guide as to the proportion of active exercise and rest required. This varies greatly according to the other habits and peculiarities of the individual.

What are the average results of the above mentioned Natural Living during pregnancy?

In an average normal case, most of the disagreeable symptoms of pregnancy are greatly mitigated, if they do not disappear entirely.

The following symptoms are avoided or greatly alleviated:

1. Dyspepsia or indigestion.
2. Morning sickness with or without nausea.
3. Sick headache and extreme drowsiness.
4. Heartburn, acidity, and excessive saliva.
5. Morbid longings, greedy appetite, and loss of appetite.
6. Flatulency, colic, and some kinds of faintness.
7. Constipation, piles, and leucorrhea.
8. Insomnia and nervousness.
9. Swelling of extremities, varicose veins, etc.
10. Cramps.
11. Toothache and neuralgia.
12. General feeling of debility and depression, fatigue, and melancholia.

What is the advice in regard to the choice of physician and nurse?

Choose the physician and nurse who add to the best training and experience, more faith in Nature, than in any human skill and artificial interference. The seeming mistakes that might be made by letting Nature take its course cannot have the same element of self-reproach that one's failure must have after interfering with, or thwarting Nature. Sterility and cleanliness are of course indispensable, and yet, since there is no absolute sterility, any unnatural interference, like local examinations, unless absolutely necessary, involve a risk of infection far out of proportion to their possible value.

Much depends on having a nurse who, aside from the proper training, is temperamentally congenial to the patient. Among the good qualities which are highly appreciated in a nurse during confinement are: (1) quietness (not talkative); (2) readiness to serve, but not obtrusiveness; (3) tactfulness and consideration.

What is the advice in regard to child-labor?

Labor depends on so many other changing conditions that hardly any woman under seem-

ingly similar circumstances has the same experience twice. She would do well to forget the special advice, that has perhaps suited other conditions, and follow instinct and Nature as much as possible. Labor is well named and it stands to reason, that to do one's work well, one should reserve all one's energies by absolute physical and mental relaxation before labor and between pains. Being alone, quiet, and in the dark, as animals prefer at such times — with the knowledge that assistance, if needed, is at hand — is a great aid. The lesson that comes from the strange, riddlesome experiences of parturition is, that plant as we may, Nature (God) "giveth the increase."

What may be said in regard to birth?

Here again Nature is all powerful, and the wisest physicians and nurses will aid where absolutely essential, and then only with great caution lest they do more harm than good. Regard and gratitude is due the skill which,— when some abnormal condition demands,— assists in the satisfactory delivery of a child; but the attitude of mind which credits Nature with its full share in the miracle of birth evokes the greater reverence.

What may be said in regard to pains of childbirth?

Dr. R. T. Trall, in his Encyclopedia, writes as follows:

> "An erroneous interpretation of Scripture has caused the opinion to prevail extensively in the civilized world, that great suffering is the ordained law of woman in childbirth; and this error has had a paralyzing effect on the popular mind, and caused the sufferers to submit reverently to their fate, instead of seeking the true light of physiology on the subject. If Eve was sentenced to bring forth in sorrow it was because of her personal transgression.
>
> "The philosophy of this matter is admirably expressed in a little work ('The Curse Removed') by Dr. T. L. Nichols: 'The women of Nature have no such word as "confinement"—a word so appropriate in civilization. The great truth to be learned by everybody is, that gestation and parturition are natural processes. It is as natural for a woman to bring forth children as for a shrub to produce flowers and fruit; and her organs are as naturally adapted for the purpose.

In a state of health no natural process is painful. Pain is in all cases the sign of disease. It has no other use or signification. With a sore throat it is painful to swallow; with a diseased stomach, digestion is painful; so is childbirth painful to a diseased, nervous system, but never to an entirely healthy one. . . . It is not to be supposed that the most important of all the functions of the most perfect of created beings, of whom we have any knowledge, should be subject to inevitable pain and peril in its performance. Such a belief is an insult to Providence. When God looked upon his creation and pronounced it good, he could not have overlooked the most important function of his last and most perfect work; and there can be no question that in the original creation of woman, she was fitted to obey the command, 'increase and multiply and replenish the earth,' without peril or pain. The very idea of the curse inflicted upon her carries with it the belief, that she was originally created perfect in this particular.

" 'What then has made the change? . . . It is because the forbidden fruit of enervating luxuries and excesses is

> continually eaten. And just in proportion as woman transgresses the laws of Nature, which are the real and unquestionable commands of God, just so far are they subject to the curse. . . . Indolence, self indulgence, voluptuousness, and all the sins against the laws which God has written in the structure of our bodies, bring with them the curse of deranged nervous systems, broken health, irregularity of function, disease, pain and premature death. . . . On the other hand, faith in God, obedience to his laws and living in harmony with his works, assure to woman health, safety and joy, in fulfilling all her destiny. These are truths pregnant with meaning, and incontrovertible as the principles of Nature.'"

Between the two extremes mentioned in the above quotations, lies the practical middle view, which recognizes congenital defects, accidents and other conditions which cause agony and danger in childbirth regardless of the habits of the mother.

However, considering only normal cases, the view elaborated above by Dr. Trall and Dr. Nichols, is the more helpful and productive of improvement.

What is the afterbirth?

The afterbirth or placenta is like the roots of the fetal plant. It supplies the place of digestive organs as well as lungs of the fetus, which has no other means of getting nutriment or disposing of waste material. If the mother does not breathe enough, the child must suffer. The placenta adheres to the uterus, and contains the blood vessels of both mother and child. Between these vessels lies an almost imperceptible membrane. The two bloods do not intermingle. Nutrition, excretion, and respiration are carried on through this membrane. All the oxygen the child gets is from the mother's blood.

What is the function of the afterbirth during birth?

During birth the placenta or afterbirth performs an important function. One is reminded of the transplanting of a tree, when the sap has gone into the roots. If the child is much compressed in birth, the placenta (roots) is there to take much of its blood (sap), purify it, and let it pulsate back after the birth (the transplanting), through the cord. Hence, the danger of cutting the cord

too soon. Some physicians claim, that a child may thereby be deprived of one-third of the blood which belongs in its body. The indications are, that respiration of the infant should be thoroughly established, and the cord should cease pulsating and be dead (requiring from five to twenty minutes) before clamping or severing; that the placenta is during birth, the bridge between intra-uterine life and this; that the infant sustains various degrees of injury from too early severing of the cord—all the way from so-called jaundice, due to the reabsorption of blood enclosed in vessels peculiar to fetal life, to the condition of the "blue baby," when a certain valve in the heart does not close properly, allowing the impure blood to leak into the purified blood; and that when the injury is great enough, death mercifully results from hemorrhage.

Others claim that no one knows the cause of jaundice; that it is not that above mentioned; that it has been proven that some babies are jaundiced by forcing the excess of placental blood into the child's body.

The author's conclusion, after consulting many authorities and carefully considering the arguments advanced, is that the safer course

is to wait until the pulsation in the cord has ceased, before tying or severing it, and to avoid such artificial interference as might force an excess of placental blood into the body of the child.

II.

Care of the New-Born Infant and the Mother During Confinement

THE NEW-BORN INFANT

What is of the greatest importance to the new-born baby?

Air. That breathing should be quickly and well established is of course, of the greatest importance. The alert nurse or physician sees that no obstruction such as cord around the neck, or mucous in the respiratory passages, interferes with the breathing.

What should be the temperature of the air?

Moderately warm temperature such as is comfortable for the mother and allows plenty of good ventilation should be provided. It is the crying infant's instinct, to want the mother-warmth and magnetism, and it should be left with the mother as soon as she is in condition to make it safe for both. An infant should not be kept perspiring, or from having plenty of fresh air at all times. Colic does not usually

come from swallowing air but from indigestion.

Hot air promotes the growth of disease germs. Seventy degrees Fahrenheit (70° F.) is warm enough for any normal being, and air at a temperature of sixty-eight degrees Fahrenheit (68° F.) is preferable. Air, however, when artificially heated is thereby made unnaturally dry, and hence, there should be ample provision for restoring its normal humidity. A constant intake of pure, fresh, out-door air and an outlet for impure air, should also always be provided.

Should the new baby be bathed immediately?

Any more bathing than is absolutely essential for cleanliness after birth should be discouraged. Sweet olive oil is very good for the first cleansing. Such a pure, sweet vegetable oil is probably the best substitute which civilization has to offer for the healing, cleansing saliva of the animal mother. No water bath should be given at this time, for birth is shock enough to the system and the child, like the mother, needs rest more than anything except pure air.

What is the advice in regard to rest for the new baby?

Let the infant sleep all it can. Do not darken the room artificially during the day or refrain from making ordinary noises to such an extent that the baby gets its heaviest sleep in the day time. The deepest, best sleep should come at night and thus natural habits should be established at the beginning. Sleep in addition to pure air is more calculated to give Nature a chance to restore equilibrium after birth than any artificial forcing of food upon the baby.

What is the advice in regard to nursing?

Allowing the baby to nurse as soon as practicable after severing the cord, serves a double purpose since it facilitates the expulsion of the afterbirth in its entirety and strengthens the suckling instinct. Of course the cord should not be severed until pulsation has entirely ceased. The baby's instinct and appetite are the best guides as to nursing. Good judgment must be used constantly. The usual mistakes are, too frequent and irregular nursing. Accordingly, one should aim to find out the natural interval between feedings for each child, be it two hours or three hours, and try

to be reasonably regular. It is the experience generally in caring for the young, whether young children or young animals, that they do better when treated with some degree of regularity.

What is the advice in regard to exercise and airing?

The child gets exercise enough at first from the washing essential to cleanliness, the removing of soiled linen, and crying for food. Later a daily air bath, allowing the child to kick, if only for a minute the first time, in a warm corner, free from all clothing except perhaps the belly-band, is the best exercise of all. It invigorates and creates a natural appetite, and not the excessive hunger from the customary daily warm water bath.

There is no better air to breathe than pure out-door air, day and night at all seasons. A very young infant should be carefully wrapped to secure body-warmth, but its nose and face should have free access to the outer air. The use of good judgment and careful watching in extreme weather, will prevent leaving a child exposed too long so as to freeze any part of the face. Allowing the infant to sleep

many hours out-of-doors greatly facilitates the care of a very young infant. One of its most important foods is oxygen, and this out-door treatment helps make the child plump and rosy, a sound sleeper and far less of a drain on the mother, both in the matter of nursing and general care.

Should a young infant be exercised or played with?

No. The only exercise that is good for a very young infant is the exercise which it takes itself. It is a positive injury to play much with a child before it is six months old. The stomach of a very young baby is like a vertical tube and any undue excitement, laughing or the like, especially after nursing, is apt to cause regurgitation, vomiting, and sometimes indigestion. It is a good practice after nursing a baby to hold it upright against the mother's or nurse's shoulder for a moment to allow it to bring up whatever gas there may be in its stomach.

THE MOTHER DURING CONFINEMENT

What is essential the first week?

When one realizes what is going on the first

week or so after childbirth, in the way of blood purification, as evidenced by flowing, the elimination of impurities by much perspiring, and even by fever, when owing to infection other means prove inadequate, one can readily see why the average normal woman has much thirst to aid this dissolving, reabsorbing and cleansing process. When the appetite has not been perverted by unnatural living during pregnancy, it is amazing how long a time elapses after the birth before there is any keen hunger. When all the energies are taxed to purify the blood, it may readily be seen that the most essential things for the mother are: fresh air at a temperature not over sixty-eight degrees Fahrenheit (68° F.), bed-warmth, rest, the natural nursing of the child and plenty of fresh, pure water at moderate temperature. Making any more impure blood by forcing the appetite merely adds to Nature's burden and tends toward a feverish condition.

The fear of becoming weak by fasting at such a time is groundless. One might better fear the unnatural weakness of fever from which it takes so long to recover, and which only too often is directly induced by indulgence in too strong food and fancy dishes

given to induce appetite. When fever has been avoided, the strength returns rapidly with the prudent taking of simple food and no more than one craves. Animals are said to give birth to young during hibernation and suckle a whole litter for months, while fasting, without any appreciable loss in vitality.

Aside from actual loss of blood from hemorrhage or other accidents at birth, the pale, bloodless appearance after confinement is often due to overheated, poorly ventilated rooms and the taking of "pappy food" during confinement. On the other hand, those who always have some fresh air coming in and who keep the temperature about sixty-eight degrees Fahrenheit (68° F.), or lower, taking whatever starchy food they eat in as dry a state as Nature offers it, are apt to get up from confinement (other conditions being normal), with good color and in good condition generally.

Is bathing advisable the first week?

The old fashioned idea that it was death to a woman in confinement to touch water to her body was perhaps very extreme. On the other hand in many instances the modern idea of the

necessity of frequent ablutions has been a detriment. Many women are careful not to take a full tub bath during menstruation and it stands to reason that it is still less advisable to do so during the flowing period after parturition. It would seem that flowing, combined with normal perspiring, the constant change of linen and clothing, fasting and much water drinking were cleansing process enough for the first week, with such additional local cleansing with moistened sterilized cotton as the individual case seemed to require. Douching, in general is to be discouraged. I believe, that many Fallopian tube conceptions have their cause in this unnatural practice. The vagina is self cleansing. Like the skin, however, it can tolerate a weak solution of "Lysol" as an antiseptic which if used as an enema would be a dangerous poison.

What is essential during the second week?

She should have a plentiful and varied diet from this time forward. The appetite usually becomes keen about the second week. All the natural fruits and vegetables — preferring those in season and belonging to the climate — together with grains taken in the form of dry bread,

etc., eggs and a little milk if greatly craved, form a plentiful and varied diet. She should avoid eating merely because it is meal time, but always wait for a keen appetite. The appetite will become keen and normal if all artificial food and extracts such as sugar, vinegar, and alcoholic drinks, and high seasoning, such as salt, pepper, etc., which cause morbid hunger and thirst are absolutely avoided. This does not keep the energies constantly taxed to make new blood, but allows ample time between meals for the body to put all its energies on the oxygenation, purification and use of what is already converted into blood. The result is good red blood and the speedy repair of tissues, and consequent vigor.

What is advised during the third week?

The third week there is usually a general falling off of all the outside cuticle, more cleansing than any bath. At this time, a good, dry rubbing of the outer skin is invigorating. The safer course in the matter of bathing is to begin by only bathing parts of the body at a time and not to take a full tub bath until flowing has ceased.

What is the advice in regard to exercise?

During confinement the system is doing a tremendous work. The average woman needs rest rather than exercise at this time. The entire body is seeking to resume its condition before pregnancy. A few weeks' rest at least, should be taken to undo a transformation which it has taken nine months to accomplish. Membranes are reabsorbed, whole organs as the uterus, etc., are being greatly reduced in size. Furthermore, there is a readjustment of other organs, not to mention the smaller parts, like veins and nerves, which are relieved of pressure and strain and in other ways undergo a great change. It is only intelligence and economy in the end to give up to it entirely and rest. Any other course merely delays convalescence, if it does not prevent complete recovery. Such good care at this time tends to secure not only health and strength for the mother, but milk for the baby, and the power to have other healthy children later.

III.

The First Year for the Baby and New Mother

THE NURSERY

The nursery should be the best room in the house from the standpoint of light and sanitation. The conditions surrounding the room should be sanitary from basement to attic. A sunny nursery even two stories above a damp basement room may mean a damp nursery even if the room directly below is well heated, because the walls of many houses are so constructed that any dampness in the basement is conveyed upward through the walls.

Except for a corner well sheltered from draft for the small crib, the more windows the better, even if it is necessary to have double glass in winter. The bed should be so placed that the wind will not blow directly on the baby. Direct drafts may be prevented by using screens, or ventilators, or by stretching muslin across an open window. In summer, the nursery should have a draft through it day and night. The room should have sunshine at

some part of the day. In northern localities, a south and east exposure is usually the best. There should be no plumbing. An open fire is a great addition to a nursery. If the room is heated by radiator or by register, there should be provided an effective humidifier to moisten the atmosphere to the proper degree. Oil stoves are dangerous, besides they consume the oxygen of the air. For the same reason, a gas stove is objectionable. Electric lights are the best but if gas must be used, it should not be left burning long or where it might be blown out. If kerosene lamps must be used, wall brackets to hold them are a prevention against their being upset.

The furnishings should be most simple, no extra curtains. The nursery should have dark shades at the windows. The floor should be smooth and easily washed. The rugs should be of washable material. There should be no drying of napkins or cloths and no cooking of food in the nursery. Anything, whether it be the use of hot water in bathing or the cooking of food which causes steam to condense on plastered walls or ceilings which have not been made moisture-proof by oil cloth paper, painting or the use of enamel, may be injurious.

How should a nursery be heated?

The best method is by open fire. A gas stove or oil stove should never be used since they exhaust the oxygen of the air.

At what temperature should a nursery be kept?

The temperature of the nursery in winter should be about sixty-eight degrees Fahrenheit (68° F.) during the day, and never above seventy degrees Fahrenheit (70° F.). High temperatures are conducive to the breeding of germ diseases. The thermometer should hang about three feet from the floor and the temperature should be taken as nearly as possible at the same level as the spot where the baby is. At night the temperature during the first months should not go much below sixty degrees Fahrenheit (60° F.). However as the baby grows older it may go as low as fifty-five degrees Fahrenheit (55° F.) and after nine months even as low as the out-side air, but preferably not below the freezing point. In summer the temperature should be kept down as much as possible.

What advice as to the airing of the nursery?

It is well to air the nursery thoroughly whenever the child is out of the room. An additional thorough airing night and morning is advisable.

Why is a hot room bad for a baby?

Hot air, especially where the ventilation is poor, forms a culture for disease germs. The baby perspires very much and takes cold easily. It may even have indigestion induced by a very warm room, and always becomes pale.

What furniture is necessary?

A large sleeping-basket will be sufficient for some months. After that the baby needs a crib with sides about a foot and three inches above the mattress. A chair or rocking chair without arms is convenient. A small low table is useful for holding the baby's things during the bath. A small enameled bowl should be provided as well as a bathtub. Some advise a rubber tub, also a small infant-chamber with rubber air-cushion pad. A small toilet-chair is necessary. Those made

of plain wood are more easily kept sanitary than the wicker ones. A baby-basket for toilet articles is a great convenience. Ordinary standard balance scales which register quarter ounces are preferable to spring scales. A baby-fence resting upon a wooden platform, a little over one foot above the floor with casters and a washable cloth for the baby to lie on is a great help in the care of the baby. Such fences about four feet square which fold together may be bought. There should be a screen for the fireplace. A wall thermometer is essential, also two enameled or galvanized iron pails with covers — one for wet, and the other for soiled diapers.

What toilet articles are essential?

Eight ounces of olive oil, four wash cloths, two face cloths, two bath blankets either of cotton or knitted wool, a half dozen towels. Towels and face cloths made of soft, old table linen are very good. A soft hair brush, two cakes of pure, white castile soap, a tube of white vaseline, a package of boric acid crystals, a box of sterile absorbent cotton, two dozen large safety pins, one dozen very small safety pins.

What clothing should be provided for the baby?

A receiving blanket, two blankets and two quilts for the crib, four quilted pads, as mattress protectors, a half dozen sheets for the crib, two pieces of rubber sheeting about a yard square, three dozen diapers either of flannelette or bird's-eye cotton, stockings or booties which come above the knees — preferable to the pinning blanket which keeps the baby from the free use of its legs — four blanket shawls and five flannel wraps about three feet square, four woolen, silk and wool, or cotton and wool knitted shirts, four knitted abdominal bands and four soft flannel belly-bands. These should have soft inner seams. Four night gowns of canton flannel or stockinet, three flannel petticoats fastening at the shoulders and fastened to a waist which lies smooth around the body. Four large horse-blanket pins and four small ones for fastening the baby's pad and bedding in the crib.

How should the diapers be taken care of?

They should never be allowed to stand in the nursery even in covered pails. Soiled diapers should not be allowed to dry but should

be rinsed out at once. They should be kept in soak in one pail and the merely wet diapers in another. The soiled should be boiled after being thoroughly cleansed in hot soapsuds. All diapers should be thoroughly rinsed to avoid skin irritation. Starching and bluing should of course be omitted, and ironing is unnecessary. When they are thoroughly dry, it is convenient to fold them at once into the form, triangular or square, in which they are to be used. A very young baby may use a diaper twice without rinsing, but this practice is not to be recommended since clean diapers, changed immediately, are a great aid in keeping the skin healthy.

What is the advice in regard to nursemaids?

Some insist on the examination of the prospective nursemaid by a doctor, for tuberculosis, syphilis and the like, decayed teeth and deafness. It is wise for the mother to watch a new nurse care for her baby for the first time, even if the nurse has had good training. Thereby she may acquire ideas about doing things that may be good especially from nurses with long experience. She

may also avoid changing the good habits of the baby and retain her privilege of bringing up her own baby. The nurse should never be allowed to change the food or the general management of the baby without consulting the mother.

Care of the Infant's Body

NAVEL

How should the navel be treated?

The navel should remain covered with sterile absorbent cotton and should be kept dry until the cord comes off, when it usually requires no further treatment. If the navel protrudes, a small sterile pad should be placed over it and the belly-band fastened more tightly. If this is not effective some doctors advise the use of adhesive plaster.

BATHING

When should a child be given its first full tub bath?

It should not be given until the cord has come off, usually during the second week.

How should the first bath be given?

One should wait at least one hour after feeding. The room temperature should not be below seventy degrees Fahrenheit (70° F.), and not much above this. There should be some ventilation. The baby's head and face should be washed and dried first, then only parts of the body which actually need it should be soaped with some pure soap like castile. The infant should then be placed in the tub with its body well supported by the nurse's hand. The bath should be very short, not more than two or three minutes and the body should be dried quickly by patting with a soft towel and never by rubbing. Some advise a bran bath when the skin is sensitive or easily irritated.

What should be the temperature of the water?

It should be about ninety-eight degrees Fahrenheit (98° F.) at first. Later it is sufficient for the nurse, say after six months, to test the water by immersing her elbow in it. If the water feels neither hot nor cold, it is suitable for the baby.

With what should the bath be given?

A material easily cleansed should be used

for the wash cloth. Sponges are objectionable since it is difficult to keep them perfectly clean so as not to cause infection. There should of course be a wash cloth for the face and another for the buttocks.

Should all infants be bathed daily?

No. The exposure and fatigue sometimes proves too great for weak infants. In sudden illnesses, it is best sometimes, to omit the daily bath. Even the use of water alone is harmful in some cases of eczema.

The normal healthy baby, however, enjoys at least one bath daily especially in the summertime. An infant who is correctly fed so that there is no chafing and so that the skin performs the function of self cleansing does not absolutely need the daily bath during the cold winter. The best part of a bath is the freedom from clothing and exposure to the air. The best baths, accordingly, are the daily sun and air baths. A very frail baby may be greatly strengthened by being allowed to kick and exercise in a sheltered corner of a warm room without any clothing except perhaps the belly-band.

GENITAL ORGANS AND BUTTOCKS

How should the genital organs be kept clean?

In the main, correct diet, cleanliness, and the proper care of diapers are the most essential factors in keeping the genital organs in proper condition. Some doctors advise the use of a solution of boric acid, two teaspoonfuls to the pint, applied with fresh absorbent cotton at least once a day, especially if there is any discharge. Cleanliness is very important. After each movement all fecal matter should be removed from every crevice. If powder is used (which should not be necessary in a normal case if the child is properly fed), care should be taken to keep the female parts closed while applying it to prevent caking and irritation. Some doctors advise that the foreskin of the male genitals be pushed way back while the child is in his bath at least once a week and, after gently washing with sterile cotton and water, that the foreskin be drawn forward again. If the foreskin adheres one should consult the family physician, who can usually readily correct the difficulty.

Is circumcision advisable?

If the treatment by a physician, such as stretching the foreskin and the overcoming of adhesions is not effective, and if the local irritation or difficulty in urinating cannot be otherwise avoided, then circumcision may be advisable.

How should the buttocks be kept clean?

They should be cleaned after each movement by the use of either water or oil. Various ointments are recommended in case the buttocks are irritated by the movements. If the proper cleanliness and the thorough cleansing and rinsing of diapers is not effective one may safely surmise in the case of a normal child that the irritation is caused by indigestion. The use, by the nursing mother, of artificial sugar, or even prunes which have been dipped in syrup, and the taking of "pappy" cereals or other starchy food which has not been cooked long enough (causing starch indigestion), and the use of rancid fats are among the causes of this acid condition of the excretions. Such a condition, if allowed to continue, is sometimes a forerunner of pneumonia.

EYES

How should the eyes of an infant be treated?

They should always be protected from too strong a light, whether lying in the crib or in the baby-buggy. The eyes should be kept scrupulously clean. A piece of soft linen or absorbent cotton and a lukewarm solution of salt or boric acid—one even teaspoonful to one pint of water—are recommended for the daily eye bath. After the first few months, boiled water and sterile absorbent cotton are sufficient, being careful always to use a fresh piece of cotton for each eye. If the eyelids are red or swollen and there is a mattery secretion, which does not yield at once to the above mentioned care, proper treatment should be begun under the care of a reliable physician to avoid blindness.

MOUTH

The mouth of a properly fed baby usually needs no special attention. In cases of sprue or thrush, some physicians advise the use of a solution of borax or bicarbonate of soda and a boric acid solution. Such symptoms are an indication of indigestion, of acidity, and one

should heed the warning and make the proper correction in the food.

NOSE

The baby's nose also needs no special attention, except that sometimes a soft piece of twisted cotton or linen may be used to clean the nostrils. Nothing hard like a stick or a hairpin should be used in cleaning out the nostrils.

EARS

Care should be taken in putting on hoods, and when the baby is lying on its side, that the outer ear is not bent forward and the shape of the ear injured. The outside of the ear should of course be kept clean with water, and soap if necessary. The inner ear should be cleansed even more delicately than the nose. A soft piece of absorbent cotton put over the little finger and lukewarm water is usually sufficient. Nothing hard or sharp should be used, to avoid injury to the ear drum.

SCALP

Whenever the baby is bathed the scalp should be washed. If so-called "milk crust"

is present, many use olive oil at night followed by a bath in the morning. Any effort to remove this crust by force results only in irritation. Some forms of milk crust in the breast-fed baby are due to the fact that the mother's diet consists of too large a proportion of animal food, in other words, too small a *proportion* of fruits, vegetables and coarse grains.

HEAD

The baby should not be put to sleep always on the same side, so as to avoid flattening the head. When the hair is rubbed off, it is sometimes an indication that the pillowcase or sheet is too rough or that the baby is kept too warm.

SKIN

How should the infant's skin be kept in good condition?

The care of the skin should be as simple and natural a matter as the care of the mouth. Man's natural element is the air, hence the exposure of the skin to the air is of the first importance.

There is a wide range of advice in the care

of the skin. Dr. Frederick A. Starr of the University of Chicago says that the skin of the unclad savage is dry, and a vigorous self cleansing organ. Bell, who has written very extensively on bathing, says the shorter the bath the more beneficial. Dr. R. T. Trall, one of the most widely quoted hydropathic physicians, says that he advocates so much hydropathic treatment merely because he feels powerless to influence people to live so hygienically and simply that the skin together with the other organs of elimination do not need such assistance in performing their natural function. We find our ancestors scorning as effeminate the Roman custom of bathing in warm water and rubbing the skin with oils, etc. History shows us that those races, who have abandoned themselves to gluttony, wine drinking, etc., are the ones who have indulged in excessive bathing, taking sometimes seven baths a day.

We all agree that "Cleanliness is next to Godliness." It must however be practiced as a means to an end and not become an end in itself. The baby of a mother, who has lived hygienically and who continues to live so naturally during the nursing that there is

never too much milk is a very different infant to keep sweet and clean, from the baby, who regurgitates quantities of milk, not to mention the actual vomiting of sour, undigested milk. Such a well-fed baby if bathed only every other day may be far sweeter and cleaner than the overfed baby that is bathed at least daily.

The use of powders, ointments, and any other artificial treatment of the baby's skin cannot be radically effective. The cause of any skin disease must be removed. Without considering deep-seated and hereditary ailments, the usual causes of skin diseases in infants, are incorrect diet on the part of the nursing mother or of the bottle-fed baby. If, after correcting the diet according to the natural living recommended in this book, the skin is still sensitive and becomes easily chafed, one should see that the soap which is being used is not too strong, that the baby's body is carefully rinsed after bathing with soap; that the skin is not rubbed too hard at any time and that the folds of the skin are kept thoroughly dry. Under the arms, about the neck, behind the ears, in the groin, etc., the little folds of the skin may be additionally dried by softly

rubbing in with the finger a small amount of unscented borated talcum powder, or a little olive oil may be used if something healing is required. Some advocate bran and salt baths.

What is the advice in regard to the nails?

They should be kept short so that the baby will not scratch itself. There is no foundation for the idea that a baby's nails should not be cut, provided they are cut properly.

AIRING AND EXERCISE

What is the advice in regard to airing the baby?

Pure air is one of the greatest sources of strength and energy. The system of a human being needs air, as much if not more, than food. The human system is like a furnace which will burn satisfactorily with very little fuel, provided one regulates it properly, as to air. Much air plus proper food produces much vital power for growth and development. The child cannot be out-of-doors too much, provided it is kept warm.

If a baby is born in the middle of winter, the airing may be begun very gradually by opening the nursery windows instead of putting

the baby directly outdoors. After a baby is two weeks old there is usually no objection to the out-of-door airing. When the temperature is below freezing, the airing should of course be indoors. On very windy and dusty days if the airing porch is not sufficiently protected, or if the weather is such that the rain or snow reaches the porch, indoor airing is advisable. In warm weather a normal baby should sleep out-of-doors after it is a few days old.

A baby should not sleep out-of-doors at night in the winter. In the daytime when sleeping out, it should be well protected from the light and wind by a buggy-hood or some covering over the baby-basket.

When the baby reaches the age when it sleeps very much less, it will be advisable to take it out for at least two hours each day in a baby-carriage, provided the weather permits. As soon as possible, the child should be allowed to exercise, creep, walk, etc., out-of-doors, which far surpasses the mere sitting or lying in fresh air. The greater the activity in the air, the more air and oxygen is utilized. Too much cannot be said about the importance of good food for the baby but keeping the

baby out-of-doors many hours will go far towards overcoming mistakes in feeding.

Should a baby be wheeled to put it to sleep?

This habit is harmful.

FOOD AND DRINK

What is the advice in regard to breast-feeding?

Every mother should find pleasure in nursing her own baby. The miracle of being provided with sweet, clean, fresh, warm food always at hand, for which there is no perfect substitute should arouse a feeling of awe and gratitude. Not to appreciate it is a sacrilege. Nursing is unquestionably the easiest, most economical and satisfactory way of feeding a baby. To give it up voluntarily and without being absolutely compelled to do so is criminal negligence. Statistics show that seven bottle-fed babies die to one that is breast-fed. Breast-feeding is a safeguard against many ailments which bottle-fed babies have. Bottle-fed babies who have become ill, have been cured by breast-feeding. It increases the baby's resistance to disease and in case of

contagion or other illness, the breast-fed baby stands a much better chance of recovery.

When is nursing of the greatest importance?

The younger the child the more important. The very framework of its body is being formed. If it is deprived of any of the essential elements for its proper growth and development, the injury is most deep-seated. Besides, the younger the child the more difficult it is to feed it artificially with any degree of success.

How often should babies be nursed during the first few days?

It is a mistake to think that because the milk does not come until the third day, or later, that the baby does not need what Nature has provided in the breasts. A normal baby sleeps most of the time during the first few days. It should, however, be allowed to nurse four or five times daily at least, so as to quench thirst and get food which seems especially adapted for the evacuation of the bowels and the cleansing of the system, getting it ready to digest the real milk when it does come.

When may the real milk be said to have come?

The third day usually, sometimes not until after the first week.

Should the baby be given anything additional before the real milk comes?

Not under ordinary circumstances. Nature would have provided nourishment at once if it were essential. The first few days are a period of cleansing and adjusting to new conditions. The practice of giving castor oil, cream, etc., at such a time is positively harmful and is the cause of much trouble later.

How often should a baby be nursed after the first few days?

This depends a good deal on the child. Regularity is of the utmost importance. The mistakes which are usually made are to feed irregularly and too frequently. A small, frail baby may do better at first on a two hour interval between feedings while a larger, more vigorous child may thrive better on a three or even a four hour interval. Most people find it necessary to nurse the baby twice during the night until it is four or five months old and

then only once during the night until it is seven or eight months old.

How long should the baby be allowed at the breast for one nursing?

Until satisfied. No definite time limit can be fixed since mothers' breasts vary a great deal in the matter of giving up the milk. It is usually not advisable to nurse a baby over a half hour, since remaining longer at the breasts generally means that the baby is sleeping and nursing at intervals. By taking the baby away at the end of a half hour the baby may be weaned from this bad habit and taught the necessity of keeping awake, when it has an opportunity to nurse.

Is there any objection to giving both breasts at one nursing?

No. If the milk is very plentiful one breast, however, may be enough.

How should the nipples be cared for?

During the first few months, cleaning the nipples before and after nursing is a good habit. A piece of sterile cotton dipped in cooled water which has previously been boiled is usu-

ally enough. When the breasts are at all sore. some advise a solution of boracic acid.

What should be the diet of a nursing mother?

She may choose her menu from all the grains, all the vegetables, all the fruits, all the nuts, most meats and eggs. In general, she should avoid artificial extracts, mixed dishes, pork, tea, coffee, wine or beer. Besides the three regular meals, she should drink plenty of water of moderate temperature between meals. If her milk is little in quantity, she should avoid sour fruits. Of course, vinegar, salads, pastry and all artificially sweetened desserts are out of the question. Soups which contain pepper or much salt cause an excessive secretion of milk for a few months followed by scanty milk or none later. It is advisable to never take meat more than once daily.

Are fruits in mothers' diet bad for a nursing infant?

Fruits in mothers' diet are very necessary for the nursing baby. Raw fruit is even more valuable than cooked. The artificial sugar

which is too often included with fruit in the diet of a nursing mother, is more likely to be the real cause of any disturbance in the baby's digestion, than is the natural fruit.

Are all vegetables in mothers' diet good for a nursing infant?

Again it is usually the case if a vegetable seems to disagree, that it is the artificial foods, or extracts, included in the diet, which are the real cause. A mother must have a generous diet with plenty of variety from day to day. The combining of many different foods in one meal is not advisable. Thoroughly cleaned raw carrots, or other raw vegetables, if palatable and easily digested by the mother are very valuable foods.

Is the drinking of milk essential to the nursing mother?

Milk does not agree with many adults. If a mother compels herself to drink it against her natural appetite, she is very likely to become bilious and anemic, which condition, of course, is detrimental to nursing. Milk drinking by nursing mothers is the cause of much regurgitation of milk by the nursing baby.

What is the objection to cocoa, chocolate and the like?

They are artificial extracts. Besides they are too rich to be taken daily and to most people they are absolutely unpalatable without the addition of artificial sugar.

What is the objection to the use of gruel, mushes, etc?

If starchy foods are taken into the system so moist that they do not sufficiently excite the saliva, which is an important fluid for their digestion, they reach the stomach unprepared and the result is so-called sour stomach. Their place should be taken by dry cereals, breads, etc., which are so dry as to enforce thorough mixing with the saliva. The complete mastication of grains such as whole wheat, whole rye, whole corn, unpolished rice, whole barley, oats, etc. will go further toward keeping the mother well-nourished, and the baby also, than any artificially moistened food. Such a dry diet leads naturally to a craving for succulent fruits and vegetables and the drinking of plenty of water between meals. The addition of animal food to such a complete diet fur-

nishes a little additional energy. Eggs are preferable to meat, since an egg is always rich not only in protein, as meat is, but also in fats and minerals.

What other considerations are important to the nursing mother?

Her sleep at night should be interrupted as little as possible. She should retire early, and should lie down at least one hour in the middle of the day. The practice of lying down while nursing the baby is sometimes the only way a busy mother can secure for herself this necessary rest during the day. She should have regular out-of-door exercise, nothing violent, preferably walking or driving. This together with a correct diet insures the daily evacuation of the bowels. In the main, she should lead a very simple, natural life avoiding as far as possible needless cares and worries.

Aside from diet what other things affect mother's milk?

Among the causes of the modern mother's failure to nurse her baby are social dissipation, loss of sleep, anxiety, worry, household

cares, etc. She should not give way to emotions such as fright, excitement, grief, passion, etc. If she does, her milk is likely to disagree with the child, and she may even lose it entirely.

Is menstruation a reason for a mother's giving up nursing?

Not as a rule. Usually nursing is accompanied with a complete cessation of menstruation. Many, however, begin to menstruate irregularly after the fifth month or even the third. If the child is gaining and the mother is not losing too much, she should by all means continue to nurse her baby.

How can one judge whether a nursing baby is thriving or not?

A nursing baby should continue to gain in weight and should have normal movements of the bowels. The infant should have good color, firm flesh, and should sleep well between nursings and at night. While awake it should lie contentedly, free from temper and fretting and show every indication of comfort.

If a baby is not thriving it does not gain, and even loses flesh rapidly. Sometimes it is

cross and irritable, or lacking in energy, and is very apt to suffer from disturbed sleep. Its flesh becomes soft and flabby and it looks pale and anemic. If this condition is due to the fact that there is not enough milk, it may readily be detected by weighing the child before and after nursing. By weighing the basket containing an outfit equal in weight to that which the baby has on, one may easily deduct this weight and so obviate the necessity of undressing the baby for the weighing.

What is the remedy in case the milk is scanty?

If, in spite of correct living on the part of the mother, the baby continues to lose weight or even fails to gain for a month, it may be necessary to wean the infant. Before doing so, however, a mother should make every effort within her power to nurse her baby. Many advocate the substitution of one bottle-feeding for one nursing. A better way is to give the child the breast first, at every feeding time and supplement any deficiency by offering the baby a bottle after each nursing. By omitting breast-feedings, the milk remains in the breasts too long, the reabsorption process is likely to

many fruits and vegetables in the mother's diet to ferment, and the result is poor breast milk and fermentation in the nursing baby's intestines. Much outdoor exercise on the part of the mother will go far towards overcoming incorrect diet. The eating of less meat and more fruits and vegetables is also an assistance in colic. If the colic is accompanied with constipation, the omission of all animal food for a while, rendering the milk less rich, will sometimes quickly cure the constipation and the colic will disappear.

Is the constipation of a nursing baby always due to the nursing mother's diet?

In most cases. Merely to regulate her own bowels by the taking of pills is not effective. Some advise an increase in the meat and milk of her diet. This symptom of the baby is more often caused by the mother's diet being too concentrated, that is, including artificial extracts such as fine white flour and other impoverished grains, sugar extract and the like, also too large a proportion of animal food and not enough of sweet fruits, succulent vegetables and coarse whole grains.

What rules should a nursing mother follow?

The following are six good rules for a nursing mother:

1. Do not satisfy the newly born baby's hunger with anything but mother's milk. The law of supply and demand holds good in this instance; the continued secretion and flow of milk (supply) depends largely on the hunger and consequent drawing of the infant (demand).

2. Do not satisfy newly born baby's thirst with anything but mother's milk. If Nature had intended that a nursing baby should receive water, it would have provided it, just as it provides mother's milk. The result of following this rule will be that the baby will nurse more, and the mother will drink very much more water. She will crave succulent fruits and vegetables, and the baby when offered water will refuse it. A nursing mother should never drink ice water. The natural temperature of water kept in some moderately cool part of the premises is cool enough. (The keepers of prize cows, which they wish to keep up to a certain standard of milk production,

are very careful to supply water of moderate temperature, because, if the water is too cool, the cows drink less and the supply of milk falls off.) This natural way of supplying the baby with pure, warm, absolutely sterile water with high solvent properties obviates the danger from the use of impure and boiled water. Furthermore it renders the care of a baby very much easier and simpler.

If a baby seems to have excessive thirst, it may be due to the mother's use of high seasoning and to the fact that the mother's diet contains too large a proportion of animal food or artificial foods like concentrated white flour, artificial sugar extract, etc. Such babies are often too fat, constipated and subject to eczema, milk crust, etc. A little abstinence on the part of the nursing mother in the matter of animal food and the substitution of naturally sweet fruits and vegetables often produces a wonderful transformation, and the baby gets so much water in its purest form in mother's milk that it absolutely refuses any supplementary water.

3. Do not take any artificial food or drink or anything containing them. Alcoholic drinks, the artificial sugar extracts of our

tables, vinegar and concentrated white flour are the most common articles of diet, that injure and even destroy mother's milk.

4. Having followed Rule 3, the appetite is no longer perverted and becomes a more normal guide as to quantity and quality of food needed. She should satisfy completely, but not force the appetite or thirst. When the appetite is undecided, she should prefer the most natural products (first hand from the earth) like water, fruits, vegetables and grains, to the less natural (second hand from the earth) animal products, meat, eggs, milk, etc. The result will be in the average case that she will be free from the fermentation and acidity caused by artificial products and drink, and she will find herself able to eat practically all fruits and vegetables, which her appetite craves, without giving the baby colic, nausea, bowel disturbances, chafing, etc.

In summer a nursing mother will require large quantities of water for herself and child, and the milk will sometimes look quite blue, but other things being correct, the child will continue to gain. Great thirst usually comes after or during nursing and it is well to satisfy it at once.

5. Eat all foods as dry as Nature supplies them. Starchy foods and cereals, eaten dry (not as mushes, but in the form of well drained, or boiled down, vegetables when cooked, — raw vegetables, when palatable preferred, — dry breads, unleavened bread, beaten biscuit of whole grain, unsalted pretzels, etc.) excite the saliva, which transforms the starches into soluble starch, and one becomes so well nourished that one no longer craves the harmful, artificial sugar extract.

6. She should avoid high seasoning. Most natural foods contain salt in the quantity and combined in the proportion Nature intends. The taking of salt which is not naturally and organically combined with food over-stimulates the glands and taxes the organs of elimination. During the nursing period the milk glands of the breasts, secrete the constituents of milk from the blood. The taking of extra salt, pepper and the like causes excessive activity of the milk glands, just as it causes the excessive activity of other secreting glands like the salivary glands. The milk in excess of what the infant requires, remains and causes disturbances, forming a culture for disease germs.

This results in various pathological symptoms such as sore nipples, caking and even ulcerated breasts. The excessive regurgitation of mother's milk directly after nursing by the baby is usually due to such causes as the use of unnatural food. Dr. R. T. Trall says in his "Hydropathic Encyclopedia": "The dietetical rule for the employment of salt is very simple—the less the better." He states, that the salts and their constituent elements, which are found in fruits and vegetables are "alimentary." He then continues:

> *"Nature has put the saline, as well as the acid and alkaline element of our food together in exactly the right proportion, so that the wants of the organic economy do not require us to make any extraneous additions."*

What are the usual results of following the above mentioned rules?

The usual results are a healthy, happy baby, and the ability to nurse it until it gradually weans itself as the teeth come. Apples, potatoes (preferably baked) dry cereals, etc., make a good natural foundation for the start in weaning to which one may add, besides the nursing, sips of water and tastes of other

fresh fruits and vegetables according to the child's inclination, and one's judgment and experience. Another result is a great improvement in the mother's health, other things being correct. The exercise of the natural function of the breasts after pregnancy has, normally, a healthy reaction on the genital organs, and instead of being too great a drain should be of benefit to the mother and not a source of misery and danger to the nursing baby.

For what additional reasons should the baby receive nothing but mother's milk?

There is no perfect substitute for mother's milk. Good mother's milk has all the elements combined in exactly the right proportions to sustain life and to promote growth and development. No chemist or doctor, however wise or learned, has ever been able to so analyze mother's milk as to reproduce it by the modification of other milk or otherwise.

The bottle-fed baby gets milk too easily, so that there is not enough alkaline saliva mixed with the food and the result is acid indigestion. This acidity means many different ailments, according to which organ is taxed

to eliminate it—skin, lungs, bowels, kidneys, or mucous membrane. Getting the milk so easily, the child ceases to draw on the milk glands and thereby ceases to induce the secretion of mother's milk.

The water of mother's milk is organically combined with it. Besides its soothing properties, it contains salts and other minerals which the bones, teeth and tissues of the child need. Mineral drinking water may be too harsh. Boiled water has lost more or less lime and oxygen, and distilled water is mineral free, and having an affinity for minerals undermines the framework of the child.

Why are artificial products, like sugar extract, bad during the nursing period?

One main reason is because they cause an acid condition in the system and as a result, the mother's milk ceases to be highly alkaline, in its reaction as it should be. Alcoholic drinks have a drying effect on the entire system and hence are not good for lactation. The effect of vinegar in a nursing mother's diet is well known as a cause for colic, which is merely stomach or intestinal inflammation, or both. Artificial sugar extract is probably the

greatest obstacle to successful breast-feeding, because its use is so prevalent, and the press is flooded with articles, some no doubt written by people who are paid by sugar companies, advocating its use as a necessity. Most of these articles ignore the distinction between natural sugar (as found in all sweet fruits and vegetables and as produced in the system by the digestion of starches) and artificial sugar extract which is not organically combined but which by a very artificial process has been extracted from natural foods. It has been separated from such minerals as potassium salts, and other elements which are essential to its digestion, and usually has been whitened by the use of sulphuric acid poison.*

Impoverished grain foods such as fine white flour, cornstarch, and most millers' products are objectionable for a similar reason. Alfred W. McCann in his "Foods, they Build or Destroy, a searching study and fearless discussion of the things people eat" says:

> "Millers will never know how many babies they have handicapped, not only from birth, but even prior to birth, from their commercial dis-

*See page 205.

regard of the laws of Nature or from their commercial presumption that, knowing more than Nature may teach, they possess therefore, the right to interfere with the inexorable laws which the Creator has ordained. . . . If one essential food constituent which ought to make up at least one per cent of the total food is present in only half its normal amount, then when it is a case of building up the tissues, the system will be able to make use of only half of the other food elements, even if these other food elements make up the main bulk of the food. . . . . This principle has long been recognized as regards plant life and growth. A plant in order to obtain perfect growth must find in the soil a certain minimum of each of many elements.

"Consider, for example, the element of potassium. If only half of the necessary amount of potassium be present, then, no matter how abundant may be all the other soil and air constituents, their normal utilization is limited to one half. The rate of growth and the ultimate development of the plant are consequently depressed. The absolute

> amount of potassium employed in growth is very small compared with the carbon or nitrogen; but any deficiency in it limits growth as surely as the deficiency in the more important elements. The substances of unknown nature may need to be present in very small amount, but if the necessary minimum is not available, the utilization of other constituents in tissue growth or repair is infallibly deficient.

It may readily be seen that the above argument is applicable to the modification of cow's milk for infants' use, as well as to the process of converting the wheat grain into fine white flour.

How may the taste for artificial sugar be overcome?

By eliminating the cause, which is most often insufficient nourishment due to the taking of acid producing foods such as artificial sugar, vinegar and the like, and also due to the use of starches in the form of "pappy foods" as Fletcher describes them. The thorough mastication of starches, especially of whole grains, such as corn and whole wheat, eaten absolutely dry, usually produces

such a well nourished condition that there is no longer any craving for artificial sugar. In one of the great clinics in Germany such mastication of dry breads is one of the main features in the cure for anemia.

How may the perverted appetite for high seasoning be overcome?

By eliminating the cause. A diet of animal food especially meat, which is lacking in mineral, because the animal whose flesh is eaten has already extracted from its food the bone-forming elements for its own bone, is one great cause for the craving for mineral salt. Furthermore, the habit of cooking vegetables, especially of cooking them in such a way that the juices containing many minerals are thrown down the waste pipe, is another prevalent cause. On the other hand a diet of entire grains, fruits, and vegetables eaten raw, if palatable, or at least cooked properly, will provide the system with salts and other minerals organically combined (in fact, in the only form in which our systems can properly deal with them), to such an extent that there will no longer be the morbid craving for extraneous salt and the like.

WEANING

How long is it normal for a mother to nurse her baby?

Most doctors regard nine months as the natural nursing period. This is no doubt based on the time for the appearance of the teeth. If a mother is normal and has lived correctly, she will usually be able to nurse her baby for nine months. Some advocate a sudden weaning at the end of nine months but the more natural method for both child and mother seems to be the gradual method.

What reasons are valid for weaning earlier?

Serious illness on the part of the mother, pregnancy, or unmistakable signs that the child is not thriving, in spite of the mother's correct living.

When is the weaning usually completed?

This varies greatly according to the season in which the baby is weaned. It may sometimes be wise to nurse a baby longer than otherwise, to avoid making a change during the heat of summer.

What is the most ideal way to wean a baby?

The gradual way, giving the baby a little suitable solid food in a form that may be well masticated by the baby's teeth, relying upon the mother's milk for the larger part of the fluid of its diet. By this method, the mother's milk gradually decreases in quantity and changes in quality; the baby begins to take more water from the cup and both mother and child suffer no loss or inconvenience.

As the teeth appear the child's instinctive appetite, when not perverted by artificial sugar and other unnatural extracts, is the safest guide, provided one offers the child only simple, natural staples such as ripe, sweet apples, scraped; mealy baked potatoes eaten alone, and the like. Any natural food which is new to the child should be given only in a small quantity at first, to allow the child to develop an instinctive dislike or craving for it, according as its effect is bad or good. Fruits and vegetables being bland and bulky play an important part in weaning. In fact, sweet fruits are more like mother's milk in their reaction on the infant's system than any other food. It is to be regretted that such foods as fruits and vegetables (so full of natural sugar, minerals, etc., and necessary

to the development of the entire framework of the child) are the very foods which are usually discriminated against at this time. Such foods taken alone never cause fermentation. It is the fermentation of fruits and vegetables when they are combined with a diet including artificial sugar, salt and the like that leads many to fear them. The child who is on this account deprived of the purest of foods is robbed indeed. Such bland, bulky food as fruit is the greatest preventative of troublesome teething or other inflammatory ailments such as bowel trouble and catarrhal affections.

The starchy vegetables, like potatoes, ripe squash, etc., eaten dry, and the watery vegetables, like carrots, turnips, etc., should all be prepared without salt, and without butter, which when heated is irritating to the mucous membrane. If such foods are persistently offered, the child will choose more and more of them as its alimentary canal adapts itself to their digestion. Such foods, combined with a very little good, unskimmed milk, always stirred before pouring, to insure Nature's proportion of cream and other ingredients, or better still, combined with eggs and dry cereals

in the form of dry whole wheat, whole corn, unpolished rice, whole rye or barley bread, or homemade unleavened bread made of whole grain flours, might well be regarded as a perfect dietary for the development of strong, healthy bones, muscles and constitutions.

The advisability of continuing the use of cow's milk after a baby is weaned has been questioned. Some babies have a distinct dislike for the taste of cow's milk. Such babies often do well by substituting for it a coddled egg, beginning by giving only a small part of the white of egg at first and never more than one egg at a time. On the other hand, some babies seem to be injured by the use of eggs. If a baby likes the taste of an egg and it seems to agree with the child, one should prefer a perfectly fresh, clean egg, to certified milk which at the best is more likely to contain germs.

What are the objections to the use of cow's milk alone, in weaning a nine months old baby?

It is a question whether after the teeth come, the use of cow's milk is a real benefit. Nature would not supply teeth at this time if they were not intended to be used. A

child who satisfies its appetite on cow's milk, whether from a bottle or a glass, must necessarily on that account eat less of more bone-forming food. The use of pure milk in itself may not be so harmful but the lack of more bone-forming food which the child would otherwise take, must in time make a difference in the bones and teeth, and no doubt has done so in those races, which have been long accustomed to depending on the milk of animals for the feeding of their young. Furthermore, milk contains practically no iron. The child of nine months should get iron from other food. Dr. Winfield Scott Hall of Northwestern University Medical School, says that all milk contains only "3/1000 of 1% of iron oxide, which is a scarcely detectable trace." He says that up to nine months the breast-fed baby of a well-nourished mother is supplied with iron, prenatally stored in its liver, and that after about nine months the child will suffer from a lack of iron if fed exclusively on a milk diet. In weaning at that age, eggs, the yolks of which contain thirteen times as much iron as cow's milk, constitute a far better substitute for mother's milk, than does cow's milk.

What is a proper diet for an average healthy baby of nine months who has to be weaned suddenly from mother's milk?

6:00 A.M. Slightly warmed pure water, neither boiled nor distilled, but filtered. Scraped sweet apples, such as Tollman Sweets or Grimes Golden apples, all the child will take. A crust of whole grain bread in such shape that the child can suck on it getting much saliva and only a little of the bread.

10:00 A.M. One coddled egg, as much of it as the child wants. Baked potato given absolutely dry and well mashed.

2:00 P.M. Slightly warmed water as above. Allow the child to choose between the white of a coddled egg or scraped sweet apple as above.

4:00 P.M. Orange juice, one to two ounces, or slightly warmed water.

6:00 P.M. Slightly warmed water, scraped sweet apple, and a crust of whole grain bread.

An average child if weaned thus suddenly and on these foods will require large quantities of water, and sweet apple scraped or a suitable substitute. There will be no looseness of the bowels or constipation. Any

tendency to constipation may be regulated by increasing the orange juice. The child may seem perfectly well but will lack its usual vim and energy unless eggs or a suitable substitute is included in the above described diet. Such a diet enables the child to escape the bowel troubles and abnormal temperature which very often accompany the weaning when it is fed immediately upon cow's milk which is sweetened and otherwise adulterated to cheat its appetite into allowing a food, the taste of which the average baby positively dislikes. It stands to reason that Nature has provided the human infant with some good instincts for the choice of its food. The above diet may be varied by allowing the child to choose from among various natural foods. Placing them before the child and giving it a tiny taste of each and thereby giving it an opportunity to associate certain tastes with certain foods, develops a greater instinct in the matter. This course is safe only provided one adheres strictly to natural foods, preferring those home grown and in season. One taste of artificial sugar, or other artificial extract, will usually so pervert the appetite of a child that its appetite is not a safe guide as to what its organism needs and can digest.

May any other food be given at this period?

It is wise to give the infant a little time to adjust to the great change from mother's milk before making any changes in the above diet. One need not fear lest the child lack nourishment on a diet of three of the greatest staples, (apples, potatoes and whole grains) plus animal food such as an egg or straight milk according to the child's taste, and plenty of pure, warm water.

After a month or two, fresh ripe peaches, strawberries, grape juice containing no artificial sugar, and other fruits in season may be offered, one at a time according to the child's taste and instinct.

It is well to postpone the use of fruits like raspberries which are full of seeds, until the child's alimentary canal has become more accustomed to digesting solid food. The fear that seeds cause appendicitis is without foundation, although they aggravate the trouble when it has already begun. It is usually the diseased mucous membrane, sore with inflammation frequently due to the taking of artificial sugar, and other concentrated extracts, which causes seeds to lodge at the seat of inflammation.

IV.

Artificial Feeding

What is the advice in regard to artificial feeding?

The most successful artificial feeding of the bottle-fed baby has generally been a modification of cow's milk. The best artificial feeding however, is so imperfect compared with breast-feeding that it should never be resorted to until every natural expedient has failed. By far the largest proportion of infant mortality under one year falls under the class of the stillborn. This being the case, there must be many mothers, who could supply milk for the few extreme cases, in which mothers on account of accident, illness, or other causes cannot nurse their young, in spite of correct living. Expensive as it may be to obtain the services of such a bereft mother to nurse one' baby, one can far less afford to undermine the constitution of the infant if one does not actually lose the child. However plump the bottle-fed baby may sometimes appear, it does not compare with the breast-fed baby,

other things being equal. Of course care should be taken to secure the services of a wet nurse of good antecedents, good character and good health. It would be a most unworthy weakness and a poor sort of mother love which would harbor one jealous thought and prefer to run the undeniable risk of bottle-feeding.

What is the advice in case artificial feeding is necessary?

Some food experts advocate slightly warmed, clean cow's milk, in case the mother has no milk. If she is in condition to supply some, however little, she should by all means do so and let the other meals of the baby be slightly warm cow's milk (never boiled but heated a little in a double-boiler over water which is scarcely above blood-warm). This should be untampered with and uninjured by artificial sugar-of-milk, unspoiled by the extraneous addition of water, lime water, barley water or anything else. It may seem essential to remove some of the cream before stirring the milk. One should err on the side of giving too little milk rather than too much, and of giving at too long intervals at first rather than too often, so as to start perfect digestion

and give the baby time to adjust to a food, which was not designed for it by Nature. At first a few teaspoonfuls at a time will be sufficient. A baby so fed would of course require all the pure natural water (filtered if need be, but never distilled) which it wants.* This should be given between milk feedings to be digested alone. The extra quantity of natural sugar which a new born baby usually gets from mother's milk may be supplied by giving it tastes of sweet juices such as cocoanut milk, and sweet fruit juices, which are the least acid, taken between meals to be digested alone. The little organism, which is fashioned by Nature to extract sugar, organically combined in mother's milk, soon learns to extract it from another organic combination. Whatever natural acid there may be in such sweet natural juices, cannot injure the baby like the artificial sugar-of-milk, which is the cause of much indigestion in babies, resulting in too loose stools, cholera morbus and kindred ailments, and many other more serious illnesses and defects.

*See page 82, 112.

V

WEIGHT, GROWTH AND NORMAL DEVELOPMENT

THERE is, of course, a difference in the deopment of children, but as a rule normal babies reach certain periods of development and do certain things at about the same age. It is helpful to have some general information in regard to the average development. However, the mother should guard against becoming fearful if her baby departs somewhat from the average. No child should be urged to do the new things before he is unmistakably ready to do them. When that time comes, he will do them himself. It is a mistake to teach a child to parade his little accomplishments in the presence of others.

WEIGHT

What is the weight of the average baby at birth?

From six and one half to seven and one half pounds, the boys being generally heavier than the girls. During the first week, there is usu-

ally a loss of about six ounces. After that the average baby gains about six ounces a week, during the first half year. At six months, the birth weight has usually been doubled. When one year old the average baby weighs three times its birth weight.

Why is the weight of the child important?

The weight of the child is a very good index of its general physical condition. A large looking child with soft, puffy, flabby flesh will sometimes weigh less than a smaller looking child whose bones have their correct mineral content and whose flesh is firm and solid.

Should a child be weighed often?

The average new mother will find it helpful to weigh her baby every week or at least once every two weeks during the first year. As a matter of fact, the busy mother, who has had several children, can judge very well as to the weight and development of her baby without frequent weighings because of her previous experience and observations.

Do all healthy babies gain constantly in weight during the first year?

No. During very hot weather and in some

instances when a tooth is coming through, there are short periods in which little or no gain is made.

Does the gain in weight necessarily mean that the child is developing as it should?

Not always. There must also be a gain in strength and indications of development in other ways.

What is the average weight at two years?

From twenty-five to twenty-seven pounds.

GROWTH

1. Prenatal growth.

Doctor Idleson, in the *Med. Wochenschrift,* sums up the results of her investigation as follows:

> "The duration of pregnancy amounts to 278 days or nearly forty weeks. . . . The growth of the embryo after fecundation is very rapid. On the tenth day it has the appearance of a semi-transparent grayish flake. On the twelfth day it is nearly the size of a pea, filled with fluid, in the middle of which is an opaque spot, presenting the first appearance of an embryo, which may be clearly seen as an oblong or curved body and is

plainly visible to the naked eye on the fourteenth day. The twenty-first day the embryo resembles an ant or a lettuce seed; its length is from four to five lines and its weight from three to four grains. Many of its parts now begin to show themselves, especially the cartilaginous beginnings of the spinal column, the heart, etc.

"The thirtieth day the embryo is as large as a horse-fly, and resembles a worm, bent together. There are as yet no limbs and the head is larger than the rest of the body. When stretched out it is nearly half an inch long. Toward the fifth week the heart increases greatly in proportion to the remainder of the body and the rudimentary eyes are indicated by two black spots turned toward the sides, and the heart exhibits its external form bearing a close resemblance to that in the adult.

"In the seventh week *bone* begins to form in the *lower jaw* and clavicle. Narrow streaks on each side of the vertebral column show the beginning of the ribs. The heart is perfecting its form, the brain enlarging and the eyes and ears growing more perfect and the limbs sprouting from the body. The lungs are mere sacks about one line in length and the

trachea is a delicate thread but the liver is very large. In the seventh week are formed the renal capsules and kidneys. At two months the forearm and hand can be distinguished but not the arm; the hand is larger than the forearm, but it is not supplied with fingers. The distinction of sex is yet difficult. The eyes are prominent. The nose forms an obtuse eminence. The nostrils are rounded and separated. The mouth is gaping and the epidermis can be distinguished from the true skin. The embryo is from one and one-half to two inches long and weighs from three to five drachms, the head forming more than one-third of the whole.

"At the end of three months, the eyelids are distinct but shut; the lips are drawn together; the forehead and nose are clearly traceable and the organs of generation prominent. The heart beats with force, the larger vessels carry red blood; the fingers and toes are well-defined and muscles begin to be developed. At the fourth month the embryo takes the name of fetus. The body is six to eight inches in length and weighs from seven to eight ounces. The skin has a rosy color, and the muscles produce a sensible motion. A fetus born at this time might live several hours.

"At five months the length of the body is from eight to ten inches, and its weight from eight to eleven ounces.

"At six months the length is twelve and a half inches; weight one pound. The hair appears upon the head, the eyes closed, the eyelids somewhat thicker, and their margins, as well as the eyebrows, are studded with very delicate hairs.

"At seven months, every part has increased in volume and perfection; the bony system is nearly complete; length, twelve to fourteen inches; weight, two and one half to three pounds. If born at this period the fetus is able to breathe, cry and nurse, and may live if properly cared for.

"At eight months, the fetus seems to grow rather in length than in thickness; it is only sixteen to eighteen inches long and yet weighs from four to five pounds. The skin is very red, and covered with down and a considerable quantity of sebaceous matter. The lower jaw, which at first was very short, is now as long as the upper one.

"Finally, at term the fetus is about nineteen to twenty-three inches long, and weighs from six to nine pounds. The red blood circulates in the capillaries, and

> the skin performs the function of perspiration; the nails are fully developed."

According to the above description it may be seen that the bones of the embryo begin to form about the seventh week and the nails are not fully developed until the fetus is nine months old. During this entire period the embryo's bone development depends largely upon the condition of the mother's blood. In other words upon the mother's diet, not only at that time, but even previous to conception. According to Alfred W. McCann, the demineralizing of food, the robbing of foods of their base-forming elements, is the main reason why there are so many cases of malnutrition, defective teeth and "other systemic ravages" evident from birth, during the entire period of nursing, in childhood and in later years.

He gives as the chief base-forming foods so essential to the growth of the bones the following list:

> "Oranges, lemons, and ripe fruits of all kinds; greens of all kinds, such as lettuce, celery, spinach, onions, leeks, cauliflower, brussels sprouts and string beans; the roots of tubers, such as baked potatoes,

carrots, parsnips, turnips, beets; legumes when not boiled, such as beans, peas, lentils; nuts of every kind, and dried fruits, such as prunes, raisins and currants."

He mentions two chief ways by which food is deprived of its base-forming elements. First "bolting, sifting, screening, degerminating, denuding and refining cereal foods, and secondly the boiling of vegetables and throwing down the wastepipe the water in which they are boiled."

2. Growth and Development.

What is the average length of a new-born baby?

About twenty-one inches.

What is the increase in height during the first year?

The average gain is about eight and one-half inches.

What is the average gain during two years?

About twelve inches.

When does the fontanel close?

At about eighteen months.

When does a child first sustain the head?

From the third to the fourth month. The body should of course be well supported for the child to do so.

Does the child keep its first hair?

No. It usually comes out during the first month and the new hair is often very much lighter.

What is to be expected in regard to the eyes of the new-born baby?

They are nearly all dark blue at birth and change to their permanent color during the first month. The baby at first distinguishes only light from darkness. The infant begins to notice at about seven weeks and seems to be able to recognize people at three months.

Does the new-born baby hear at birth?

Very likely not. At first the baby begins to notice noises but the sense of the direction of noises is developed later after a few months.

Has the baby saliva at first?

There seems to be very little at first but the

quantity becomes so great during the third month, that there is much drooling which is often mistaken as the result of teething.

What is the color of the baby's skin at birth?

This varies greatly. The dark skinned child is not such a bright pink at birth as the light skinned child. During the first few days there is sometimes a jaundiced look. This is often mistaken for liver trouble. It may be due to the cutting of the cord too soon.* Some claim that very tight binding of the belly-band produces similar results. Very often there is fine soft hair on the body but it soon disappears. Usually the first skin peels off. A new-born baby does not perspire at first but begins to do so during the first month. Sometimes the skin on the baby's chest is slightly red and the breasts look swollen. This may be due to milk in the glands and usually disappears of itself and does not require treatment.

At what age does a baby reach for playthings?

From about five months.

At what age does the average child sit?

During the seventh or eight month.

*See page 33.

When does the child begin to creep?

At about seven months of age.

When does a child stand alone?

This varies greatly. Some children try to put their weight upon their feet as early as nine months. A small child can usually stand at eleven or twelve months of age.

When does the average child begin to walk?

The size and weight of the child has much to do with its ability to walk early. Babies begin to walk all the way from the twelfth to the sixteenth month.

When do children begin to talk?

Some say words at as early as eleven months. It is unusual for a child to form sentences much before it is two years old.

3. Dentition.

When does the first tooth appear?

The average time is about the seventh month. Children have been known to have the first tooth even at birth. Some midwives have a theory that the early appearance of teeth in a child is an indication of fecundity on

the part of the mother, and that the late appearance of the first tooth in an otherwise average child is an indication that the mother's reproductive function is at an end. Others believe that it is merely a family habit to teethe early or late. Doctor Richard M. Smith of Harvard in "The Baby's First Two Years," gives the following table showing the average order in which the first twenty teeth appear:

5-8 months, the two lower middle incisors
8-10 months, the four upper incisors
10-11 months, the two lower later incisors
12-15 months, the four interior molars
18-20 months, the four canines, the "eye" and "stomach"
24-30 months, the four posterior molars

What are some of the causes of very late teething?

Malnutrition, rickets and much illness.

Is it normal for teething to cause illness?

No. It is usually accompanied with no gain in weight for a few weeks which is normal. Such symptoms as fretfulness, poor sleep, loss of appetite, fever, vomiting, bowel trouble, and the like are usually due to indigestion from bad feeding at this time. The food

during teething should be very simple, no great variety, no mixtures, erring on the side of giving too little rather than too much. The plentiful use of fresh fruits, especially the apple, and watery vegetables, such as mashed carrots, are great preventives of troublesome teething.

VI.

The Second Year of the Child

What is the advice in regard to airing and exercise?

One cannot emphasize too much the importance of air and outdoor exercise for the child at any period of its development. Much pure air will in a large measure overcome mistakes in feeding. It is well to take a go-cart when out for the airing so that the child may be free to ride and walk alternately, thereby preventing over-tiring from long walking, or chilling the child in cold weather from long sitting. While exercising, the child should be trained to keep the mouth closed especially when running, and to breathe as much as possible through the nose at all times.

What is the advice in regard to drink?

A child should be offered fresh water of moderate temperature three or four times a day, preferably during the morning and between meals. Many refuse a child water on going to bed to avoid bed-wetting. As good

water is known to be of great medicinal value as a purifier, it would seem the wiser course to satisfy the thirst of the child at all times. Allowing artificial sugar in any form, or seasoning, and the giving of acid fruit, soups or much milk at night, also insufficient bed clothing, and adhesions of the genital organs in the case of boys, are more apt to be the real causes of bed-wetting than the mere drinking of water.

If it is absolutely impossible to get good natural water for the child, filtered water is preferable to boiled or distilled water. There is danger in giving distilled water to a growing child for any considerable time since it needs lime and other minerals in water, which such distilled water lacks. Boiling filthy, germ-laden water may destroy the then living germs but boiled filth is still filth and a culture bed for the germination of disease germs which it may encounter later. (See p. 81.)

The juices of sweet, cooked fruits at meal times or of natural raw fruits between meals are a valuable addition to the child's diet.

What is the advice in regard to food?

During the second year, the careful mother should feel her way, as it were, in regard to the feeding of her baby. What a child can take at this time depends upon many things, among which are the number of teeth, its previous condition and care, and the peculiarities of that particular child. She should bear in mind always that any possible disturbance which may result from offering a child in an undisguised form, natural fruits, vegetables, and dry grains (preferring those in season and home grown), together with the daily fresh coddled egg or a very little pure, unskimmed milk, in the diet,— possibly due to their newness to the little organism—is inconsiderable as compared with the grave constitutional disorders that result from clogging the system with artificial extracts and mixtures, which pervert and cheat the instinctive appetite.

What fruits are preferable at this time?

Orange juice is generally chosen as the first fruit for a baby. When it is sweet, it no doubt supplies the child with some natural sugar not to mention water and minerals in a very pure form. It is a good bowel regulator

and is especially useful in a diet including much animal food, such as milk and eggs. It belongs however to a warm climate. Perfectly ripe and very sweet apples taken raw and scraped are far more nutritious, and suitable to a temperate climate. Besides, apples are usually more heat producing and fattening than oranges. Among the other fruits which are good during this period, especially when in season, are fresh ripe peaches, strawberries, red raspberries, grapes and other small fruits. One should give a small quantity at a time so as to enable the child to develop an instinctive liking for them or a dislike for those which might cause a disturbance, due perhaps, to some idiosyncrasy of the child or to disagreement with something else in the child's diet. Baked apples and apple sauce may be given for a change but apples in this form are not by any means as good as the raw sweet apple. The apple baked with core and peeling is preferable to apple sauce although the child may not be able to masticate the skin of the apple, and the core must be removed when feeding. This way of preparing, conserves the food value of the apple, since it helps to retain all the natural elements. The use of prunes, indiscrimi-

nately, for babies is distinctly bad. They are not only a stale dry fruit but it is becoming more difficult every year to get the naturally dried prunes, many of them having been dipped in a syrup. Some of the most healthful prunes look rather dried up and have a white deposit of natural sugar on the outside, which has come from within during the drying.

What vegetables are preferable at this time?

Children vary greatly in their liking or disliking for vegetables. The average child at this period has a positive dislike for raw radishes, onions, cucumbers, tomatoes, lettuce, celery and the like. The most perfect way to prepare a vegetable is baking. Mealy baked potatoes may be given first. They should never be fried or moistened with milk, butter or the like, but should be eaten dry. Fats cooked into vegetables are irritating to the mucous membrane, causing indigestion.

Of the fresh vegetables, the average child prefers new, sweet peas, young lima beans, string beans, young carrots, young beets, young turnips and squash. Some show a decided preference for baked sweet potatoes and if they are perfectly fresh and taken in mod-

eration, especially where they grow, they are beneficial. The most perfect way to prepare squash is to bake it. It should be perfectly ripe to avoid a too great laxative effect.

If a child enjoys chewing a piece of raw celery or raw carrot, rutabaga, and the like, as it grows older, even though it may rarely swallow the pulp, it may derive great benefit from the minerals which are so plentiful in raw vegetables. Greens are good regulators.

How should vegetables be prepared?

To avoid losing any of the minerals in green vegetables, they should be washed quickly and carefully so as not to bruise the leaves, wrapped in a thin, clean, white cloth and left in the ice box or the fresh air to become crisp. No vegetables should ever be allowed to remain long in water, if the water is to be thrown off and not eaten with them, since water absorbs very quickly their salts and minerals. If vegetables are cooked, they should be cooked just enough to make them tender with as little water as possible, in an airtight vessel, and allowed to cool until they have ceased steaming before the cover is removed. This method retains

the best part of the vegetables. Some claim that the average way of cooking vegetables, with the cover off or placed loosely on, not to mention the still greater mistake of throwing off the water after cooking, makes them of little more value than rubbish. Vegetables should be prepared for the child entirely without butter, salt or any other seasoning. We should not inflict our perverted appetites upon the child. The best cure for the taste for artificial seasoning, such as salt, etc., is the eating of things in their natural state, such as raw fruits and those vegetables which are palatable when not cooked. A food expert, Mrs. Viola M. Kimmel, says in regard to the use of extraneous salt:

> "Its use is likewise responsible for much poor eyesight, deafness, falling out of the hair, rough skin, eczema, loss of memory and the power of concentration due to the degeneration and inelasticity of the brain. Even the toe nails and finger nails grow thick and hard on a salt diet. Every tissue in the body is a sufferer when salt, sugar, pepper, spices or any condiments are eaten. There is never

> the slighest desire for any of these harmful things when one lives on the things that grow out of the soil and eats them in their natural state. Nature has seasoned every one of them perfectly."

The person who resorts to artificial seasoning perverts more or less the natural sense of taste so that instead of enjoying keenly many delicious natural flavors useful no doubt to digestion, he senses only the few strong flavors to which his benumbed gustatory nerves still respond.

Dr. William A. Evans, medical expert for the Chicago *Tribune,* says that our systems were constituted to extract whatever salt they need from natural foods in which the salt is organically combined, adding, that our systems cannot handle salt which is not thus organically combined and that when salt is taken extraneously it goes through the system as salt and merely taxes the organs of elimination.*

It may readily be deduced from the above that the taking of sugars as well as salts into the system, when they are not organically combined in natural proportions, must cheat the

*See Addenda, 275.

appetite and satisfy the taste, so that the system, by taking sugar and salt in an unnatural form, is really being robbed and starved for these natural foods.

What grains are preferable at this time?

All the entire grains are good. However as a matter of fact, oatmeal, whether in the form of rolled oats or otherwise, is about the only grain which has become only slightly denatured and demineralized in the milling process. Even cornmeal (which being indigenous to this climate forms an ideal food) often reaches us in an impoverished state. Whole wheat flour, one of the world's great staples, and entire cornmeal can be obtained from extremely few dealers. Unpolished rice, the entire barley, wheat and oat berry, and in fact all of the grains, when left entire, constitute "the staff of life" for the child.

Every family should have a little hand-mill of its own so as to be sure to have flour of the whole grains.

How should the grains be prepared?

Unleavened bread is the most perfect form in which to eat grains. (See Chapter IX.)

What is the least desirable form in which to eat grains?

In the form of mushes, most crackers, cakes, pies, all hot breads, fresh rolls and griddle cakes raised with soda or baking powder. Especially to be avoided are iced or sugared cakes, constipating crackers made of fine white flour or containing artificial sugar, and pies, tarts, pastry and the like.

Why is the egg such good food for the child?

In the first place, the strictly fresh egg is, of course, likely to be freer from germs than the best certified milk. It is very rich in fats and proteins. It contains also much sodium, calcium, iron, phosphorus and chlorine, nearly twice the quantity of mineral matter as is contained in cow's milk. The white of the egg is acid in its reaction on the system, and the yolk is alkaline. As may be seen from the above the egg forms a most valuable food. It is, of course, important that eggs should be fresh. For a very young child they should usually be slightly cooked, coddled, soft boiled or poached. The finely grated yolk of a hard boiled egg is sometimes palatable and good for

infants as young as five months. Fried eggs should never be given to children, and omelets as they are generally prepared are objectionable. Most children will take one egg a day for an indefinite period with enjoyment and profit. Some however, have a peculiar idiosyncrasy in regard to eggs and cannot take them at all.

How should milk be given?

If the child likes the taste of milk and demands it, it should be given as unskimmed, certified milk without any extraneous addition of cream. In good natural milk, the acid and alkaline elements are very well balanced, making it in that respect a good food for the child. However, the prevalent use during childhood, after the teeth have come, of a food which demands no mastication must result in the taking of less food which is more bone-forming, like the grains. Besides, the mastication of solid food, like dry whole wheat bread, causes the jaw to grow, making more room for the second set of teeth. Other conditions being correct, the result is, better teeth, a cleaner mouth and alimentary canal, good red blood, better health, vigor and efficiency. (*See* Milk in Index.)

Man is the only one of the Mammals, that takes milk or cream as a food after the period of infancy. During that period when Nature supplies milk, cell growth is at its height. An average baby trebles its weight during the first year. Milk and especially cream, which is present in larger proportions during the early months of nursing, gradually decreasing, belongs to the period of development of the organism when anabolism (the building up of the body), is the main thing. Activity brings with it catabolism (the wearing out of tissue), the carrying off of old tissue followed by anabolism, the restoring of it. This entire process is called metabolism.

The function of nursing usually ceases about the time the child begins to creep and walk to any considerable extent. A different sort of food containing more oxides and other minerals is needed at this time. Nature has usually supplied some teeth which enable the child to take natural foods containing the needed minerals. Older children, and especially adults, who continue the use of milk as a food, and particularly cream which is designed for cell growth, are subjecting themselves to the likelihood of those constitutional

blood diseases, which are the result of too great cell growth and too little renewal of old tissues, that is, unbalanced metabolism, such as is indicated by tumors and cancers.

Acute gout may be produced by the taking of cream. Various forms of rheumatism and also obesity are found among those who use freely such extracts as cream or sugar or both. Any effort to balance such a diet, lacking in the natural proportions of minerals, by the direct taking of mineral extracts, merely introduces an added danger. The only safe cure is to remove the cause and get well naturally and gradually.

What is meant by perverting the appetite?

The use of artificial sugar, vinegar, in fact all high seasoning and condiments perverts the natural appetite. The effect of taking artificial sugar is first to lessen the appetite, so that the child does not eat enough of other foods and the after-effect is like that of vinegar, causing a morbid appetite and sometimes an insatiable appetite, owing to the resulting acidity. One effect of taking highly seasoned foods and condiments as well as artificial sugar is to destroy the natural appetite of the

child for vegetables and sometimes fruits. Some children whose appetites have been thus perverted will eat only animal food and artificial sweets. They will sometimes have a morbid craving for plaster, chalk and dirt, in their instinctive craving for the minerals which their diet lacks. Young nursing babies whose mothers are taking so much artificial sugar that the milk is affected, will show distinct signs of morbid thirst. This will be evidenced by great restlessness, thumb-sucking, and the like. No doubt, the use of the pacifier has arisen from just such unnatural habits.

What is meant by cheating the appetite?

The habit of artificially sweetening foods which are normally so sour, that the natural appetite would reject them, is one instance. The appetite of the new-born baby is cheated when sugar-of-milk is added to the modified milk to overcome the child's dislike for the taste of cow's milk. The use of mixtures often cheats the appetite. The two following instances are illustrations: A certain baby refuses plain oatmeal. Oatmeal is thereupon mixed with its milk. The result is acid indiges-

tion. If the skin eliminates the acid, it has pimples, chafing, etc., and whenever there is the added tax on the system, of teething, the child vomits. The lesson from this is, that one should give, undisguised, only what the unperverted appetite of the child craves. Again, a certain baby refuses plain spinach. It is given to the baby in disguise in milk soup. The result is acute constipation. The lesson from this is to give no mixtures to cheat the appetite.

What rules should be followed in the feeding of children at this period?

1. They should be fed at regular hours.
2. They should be allowed at least one hour for each meal.
3. Starches should be given so dry as to insure their proper mastication, and mixture with saliva.
4. Vegetables should be mashed and fruits scraped until the teeth can sufficiently masticate them.
5. They should be allowed to choose their menu by setting before them a few natural foods which would combine well.
6. They should never, under any circumstances, be forced to eat.

7. They should be given their solid food first, followed by the juicy food, after the solid is all eaten. It is well to offer water before milk or fruit juice, lest thirst may lead the child to take that which it would otherwise reject.

8. They should never have more than two or three kinds of food at one meal.*

9. They should never be given anything very cold or very hot; only cool or warm food.†

*One writer on this subject, Mrs. V. M. Kimmel, says: "The small variety of food and each kind of food eaten alone, greatly decreases the danger of overeating and very materially increases the joy and satisfaction in eating, as well as lowers the high cost of living; and especially is this so, if the foods are eaten in the delicious nourishing state in which Nature grew them; for then the quantity required for satisfying the appetite and nourishing the body is much less than when the foods are cooked."

†"Hot and cold foods are injurious to the teeth, the salivary glands, and to the stomach. What we eat is directly responsible for the condition in which we find our teeth. Eat hot, soft food and other foods that not only require no chewing, but which are impossible to chew, and the teeth grow weak through lack of exercise; eat food that is also robbed, through cooking, of the elements necessary for the renewal and repair of the teeth; and eat all this food either so hot or so cold that it cracks the enamel of the teeth; commit these three sins habitually and we become early in life the victim of the dentist, who usually increases the difficulty by persuading us that the thrice or even more frequent daily use of some tooth wash or powder is our only hope if we wish to preserve our patched up remnants of

They should never be given ice water. It is harmful to the stomach and is one great cause of anemia. It is especially harmful taken during or at the end of a meal. The taking of such water is apt to cause an insatiable thirst. If during a journey no water except ice water can be obtained, one should increase the supply of juicy fruits and if salty food is avoided, no more or at least very little thirst will be felt. In fact, children who chew each kind of food sufficiently and who live on natural food, eating plenty of juicy fruits and vegetables, drink surprisingly little water.

10. If milk be given, it should be taken very slowly from a cup or on some very dry cereal, such as shredded wheat before it has entirely soaked in, so that the mixture may be fairly well chewed and well mixed with saliva. An entire meal should not be made of such a mixture. It should be balanced with the thorough mastication of dry bread or the equivalent. (*See* Milk in Index.)

teeth. A sour apple . . . is the best tooth wash in existence. It also furnishes both exercise and food for the teeth. After meals, all that is necessary is a clean, moderately stiff brush and a glass of pure, slightly warm water, if we wish to give the teeth a thorough cleansing followed by no bad after-effects."—Mrs. V. M. Kimmel.

11. During the first part of the second year, the child requires at least four meals a day. The main meals should be in the middle of the day at about ten and two o'clock. Breakfast and supper should be light meals, especially the supper.

12. It is claimed by some that it is better not to combine in one meal foods containing different kinds of starches. For the best results, avoid combining raw acid fruits with starchy foods, such as potatoes and bread.

13. In sudden illness, the naturally fed child will crave less food, and usually sweet, juicy fruits, acid fruits, or even only water. In fever, of course, no solid food should be offered. Ripe juicy fruit is the best fever diet. Cow's milk is especially objectionable at this time, except in the case of an infant of the nursing age, in which case it should be greatly diluted.

14. During the heat of summer, the normal, naturally fed child will crave less solid food and more of fresh, juicy fruits and vegetables. Plenty of water at a moderate temperature should be allowed morning, evening and between meals.

What is the advice in regard to clothing?

Care should be taken to have no restricting bands, tight clothing, etc. Patent leather shoes, patent leather hats, etc., are distinctly unsanitary, as is also the undue wearing of rubbers, when not necessary for rain or dampness. They prevent evaporation of perspiration, and are even said to injure the eyes. Very young children need to be protected against the extremes of weather, hence they need as much if not more clothing than most middle aged people in winter and less in the hottest summer weather. As children grow older, some develop great heat producing powers and being very active do not require as much clothing as some adults. Judgment must, of course, be used at all times. The belly-band containing some wool is advised until after the second summer and in some cases until teething time is over. An extra pair of canton flannel drawers, worn over the heavy winter-weight cotton underdrawers is very good in cold weather, especially when children sit on hard-wood floors, and play in sand piles. Knit leggings that come up over the little suits or dresses, worn with a warm sweater and overcoat, mittens, that are knit so as to form

a gauntlet over the sleeve, fastened with a safety pin, and high goloshes or artics for the feet, enable a child to roll and play in the snow without getting very wet. Hoods and earcaps should only be worn when the weather is too cold for the ears to be exposed. A good hat is otherwise sufficient. The first cause for earache, although the direct cause may seem to be exposure, is mainly impurities in the system, often due to bad air conditions, as from sewer gas, garbage, damp concrete, damp plaster and the like. Indulgence in artificial extracts, like sugar, and other excesses, are other causes for impurities in the system. In summer, sandals for the feet and other light, loose clothing, allowing free access of air to the skin, are advisable. A good rule for all seasons is: Dress to avoid shivering or perspiring.

What is the advice in regard to bathing?

The best part of a bath is the exposure of the body to the air. The daily air bath helps make the skin vigorous and ruddy. The unnatural condition of our city air seems to demand frequent bathing. One should note, however, the attendant paleness and excessive

appetite of children on the day following a warm bath, and when one can, one should give preference to the more natural daily air and sun bath. Cleanliness, of course, requires that some parts of the body be washed often, whenever the child in question needs it, in order to be always sweet and clean.

There is no question, however, but that a simple diet and natural living makes a vast difference in the number of baths required. If the organs of elimination are taxed to the utmost to relieve the system, burdened by a rich constipating diet, there will, of course, be need for much bathing. When one learns that the men in sugar factories, who merely stir the molasses or engage in some of the sugar refining processes, have eczema and boils, like diabetics, from only handling the extract, one can readily see why there is so much said about auto-intoxication from the unwashed skin and why excessive bathing has come to be regarded as a necessity by the Anglo-Saxon people who are the great sugar consumers of the world. It stands to reason that the excessive indulgence in such extracts must be met by other excesses.

What is the advice in regard to rest?

During this period, the child should have at least one good nap a day and not too soon after eating, preferably in the open air but surely with the window or windows open, provided the child is not in a direct draft. The natural bedtime is the sunset time, summer and winter.

VII.

The Third Year of the Child

The general advice in regard to plenty of outdoor exercise; gradually feeling one's way in the matter of offering natural food and drink to which the child is unaccustomed, and allowing the child to use its instinctive appetite in its choice of natural food and drink; proper clothing; moderate bathing; plenty of sleep from sunset to sunrise, including one good nap, etc., is about the same as for the second year.

What is the special advice in regard to feeding during this period?

The presence of the canine teeth (so-called meat eating teeth) often leads to the mistake of allowing and even urging the child to take meat broths, if not committing the greater mistake of forcing meat upon it. During cold weather, a teething child of two years will often show a decided liking for fresh eggs. Caution should be shown in never giving more than one at a meal and seldom more than one a day. I doubt very much if the anemic child is really permanently benefited by the constant

taking of meat soups, meat, etc. To give an illustration, the following case came under my notice:

A bottle-fed baby, a sugar susceptible, became very anemic from the acidity resulting from the artificial sugar-of-milk in its modified milk. A specialist was consulted by the father who notwithstanding good advice "believed in sugar-of-milk." The specialist advised the taking of beef extract for a limited period to help correct the bloodless condition. He also advised never giving the child sugar-of-milk. If the child had continued its former diet including artificial sugar-of-milk, together with the beef extract, it would have been doubly in danger of kidney diseases. If the beef extract treatment had been continued too long, the child would still have been in danger of kidney trouble. The safer plan in such a case is, to merely leave off the cause (the sugar-of-milk) and let Nature effect the cure more slowly. This is less spectacular in its results, but offers no pitfalls like misplaced confidence in extracts, exchanging one evil for another. The friends of the mother, hearing of the beef extract treatment, were led to believe that it was that, which had effected the

permanent cure; whereas the fact was,—as developed after some cross-examination—, that the cure was due to the omission of the sugar-of-milk, no longer permitted by the specialist. Besides the mother was cautioned not to continue the use of the beef extract too long.

Real whole wheat and other entire grains—which extremely few dealers have in stock—furnish in the purest form all of the elements the child could possibly get from the meat together with bone-forming material, which the meat lacks, since the animal whose flesh is eaten has already extracted for its own bone, the bone-forming material in its food. Most carnivorous animals eat bones and blood with the flesh of their prey. Meat stimulates the child and satisfies the appetite, and one chief harm of an excessive meat diet for children, whose bones are growing, is that their appetite being satisfied by meat, they do not eat enough of bone-forming grains and accordingly suffer more or less from lime and mineral-starvation. A normal child of two years whose digestion has become vigorous by extracting food elements for itself often derives so much nutrition from coarse, plain food,

that it refuses milk, other than an occasional sip or half glass in cold weather. This is very different from the case of the child, which refuses plain milk because its appetite is perverted by the taking of artificial sugar extract. To the former child, the sudden taking of much meat may cause nose bleed. The excessive use of animal food is the cause of much nose bleed, general irritability and quarrelsomeness in children. If children keep vigorous, rosy and happy on a diet consisting largely of fruits, nuts, vegetables and dry grains with an occasional taste of animal food, one should rejoice and let well enough alone. Nature has kindly arranged it that the best things in life are within reach of those of moderate means. In these days for a child to thrive, depends not so much upon what it gets in the way of any special natural food (provided its food is untampered with) as upon what it escapes in the way of artificial food. In studying the subject, one is impressed to find how much nutrition there is in most natural foods. Owing to the fact, that there is so much anemia as the result of acid indigestion from the modern habit of taking "pappy" breakfast foods, impoverished grain extracts, sugar extracts, etc.,

too much stress is placed upon the value of so-called highly nutritious, concentrated food. Such foods as the nitrogenous; among which are animal foods, whole grains, nuts, etc., are necessary only in small quantities. One should emphasize rather the value of the presence in food of cleansing water, and constituents whose value is unknown, combined in Nature's own proportions; and even waste material, provided the nutritives which are generally recognized as essential are there also. Nature is the only absolutely safe judge as to the correct proportions of nutritive, cleansing and waste elements necessary to maintain the perfect balance which insures health. When the mother departs from Nature in the feeding of her child, it is no wonder that she often feels obliged to call in the most expert specialist and even then often fails to raise her child.

Many young children suffer from kidney and bladder difficulties largely from the habit of taking sugar extract; or even taking a good food like honey, plain dried dates, figs, etc., to excess, the taking of which, robs them of a normal appetite for vegetables and fresh fruits, which are the recognized kidney cleansers.

VIII.

The Care of the Child from the Age of Three Years up to Ten Years

There is no doubt that incorrect habits of living produce the most deep-seated defects in early childhood when the framework of the body and the constitution are being developed. The crippling of the mind and the organs of the senses, as the eye, shows itself later when the child is taxed, not only physically but mentally. When one has once adopted such simple living as suggested in this book, other conditions being correct, one realizes a freedom from common ailments and experiences the joy of efficiency. In fact, there is no time of life when such natural living will not continue to be essential to the best health.*

Just as the stages of growth and development in the earlier months, the sitting time, the creeping time, the walking time, etc., should be left to Nature with no harmful hurrying or forcing, so until the school age at least, the child should be left as much as possible to develop according to its own peculiar needs and characteristics. Such a method does not ne-

*See Addenda 269.

cessitate lawlessness on the part of the child but is entirely consistent with the most perfect consideration for the rights and comforts of others. The family is the natural unit, and the loving adjustment of strong individualities to the family welfare there required, furnish the young the best schooling for the highest fraternal spirit in the larger life later.

The biographies of great men and women furnish ample proof in favor of the natural and against the artificial forcing method in training and education. The education of the Humboldt brothers, Edison, and many others are illustrations of this.

After all, teach and advise as we may, example is the great teacher. No parent who is self-indulgent and who is not daily striving to maintain a higher standard can long stand the test. Wordsworth has wisely said, "The child is father to the man." Often the best that we know, we have learned from our children, but they look to us for example.

Some may deceive themselves into thinking that self-development and the accomplishment of certain æsthetic ideals requires the deliberate limiting of the number of offspring, sometimes to the point of race-suicide. It is an

indisputable fact, however, that the bearing of children, and the rearing and training of children, whether we are fortunate enough to have our own or must adopt some, is one of the greatest influences for self-development and for the attainment of the highest ideals.

Some people believe that certain illnesses are necessary, beginning with colic, croup, etc., up to the more serious diseases of children. Most sicknesses are not necessary when children are properly fed, sanitarily housed and cared for as they should be. There is a marked difference in the resistance to disease between children who have followed the natural living before mentioned and those who have not. To obtain the best results, father and mother should try to live as nearly as possible in the matter of food, as they desire their children to live after they have reached the school age. Only in that way can the parents be intelligent guides in this matter, for it is a never ending study, changing according to new conditions and new discoveries.

What is a complete diet for a family comprising young children?

According to the teeth of man, it would seem

that a complete diet should contain at least some representative of animal foods, some representative of whole grains and some representative of fruits, nuts and vegetables. Animal food requires, to balance it in the diet, fruits and vegetables. Whole grains also require fruits and vegetables. A diet of meats and whole grains is too one-sided, and on the other hand a diet of fruits and what are generally termed vegetables, alone, would be lacking indeed. Included with the great staples of the world we find among the grains, natural brown rice, unbolted rye, whole wheat, unbolted Indian corn, natural whole oatmeal; among the vegetables we find potatoes, peas, beans, supplemented with watery vegetables and greens; among the fruits; apples, grapes and raisins, figs and dates, supplemented with peaches, pears, berries, etc., according to the season.

In this temperate climate of the United States of America, the greatest food staples which are generally acknowledged to be wholesome, are whole wheat, whole corn, the potato and the apple. The apple and the potato are antiscorbutic, a cure for scurvy. Such foods with proper care keep for many months. These

staples are the foods which one can take daily for long periods with benefit and without tiring of them. With the changing season, the natural appetite will crave and add to these staples changes, in the way of other grains (as the natural brown rice, suited to hot weather) and changes, including most of the vegetables and fruits as the seasons rotate.

During the summer and even during the winter, possibly because of the tropical air conditions, which we simulate in our overheated homes, many crave and seem to derive benefit from fruits and vegetables of a much warmer climate.

It stands to reason, however, that the most perfect results come from adhering, within reason, to those foods in season and natural to the climate, trusting Nature implicitly to supply the body needs, as indicated by the craving of a natural unperverted appetite, a sort of subconscious intelligence, which is wiser than we, choosing elements and changes and food combinations beyond the most expert chemist's intelligence to even understand. The following are a few suggestions for breakfasts, dinners and suppers:

A WINTER BREAKFAST TABLE

(1) Raw, winter apples eaten with skins (cut in half and scraped for the very young children, who require it). Baked apples. Nuts for the older children, who can thoroughly masticate them. For various reasons it is best to serve nuts in the shell.

Dry whole grain bread, made from genuine whole grain (unleavened or aërated bread preferred).

Soft-boiled eggs (coddled for the younger children), or very dry whole grain breakfast food with pure, clean, whole milk. The cooked fruit will serve to moisten the breakfast food if that is desired.*

(2) Sweet, winter pears (peeled only for the very young).

Baked pears.

Nuts, served unshelled, for the older children.

Dry cornbread. (See recipes for egg-raised and unleavened.)

Poached eggs, on whole wheat toast or whole barley breakfast food with pure, clean, whole milk.—(See note above.)

(3) Dried apples or apple sauce for the younger children.

*For children with teeth and for normal adults milk is not recommended. (*See* Milk in Index, and Addenda 269.)

Nuts, unshelled, for the older children.

Dry oatmeal bread (unleavened or aërated preferred.)

Unleavened oatmeal crackers eaten with pure, clean, whole milk, or hard-boiled eggs (well mashed for the very young children).—(See note p. 143.)

A SUMMER BREAKFAST TABLE

(1) Oranges (only the juice for the very young).

Nuts, unshelled, for the older children.

Whole rice porridge with pure, clean, whole milk.—(See note p. 143.)

Dry whole rye bread (unleavened or aërated preferred.)

(2) One-half grape fruit, or berries (the latter only for the children old enough to eat berries).

Nuts, unshelled, for the older children.

Brown, whole barley porridge with pure, clean, whole milk.—(See note p. 143.)

Dry whole wheat bread (unleavened or aërated preferred.)

(3) Ripe peaches, apricots, plums, or the like.

Nuts, unshelled, for the older children.

Whole rice porridge with pure, clean, whole milk.—(See note p. 143.)

Dry whole rye bread (unleavened or aërated preferred).

Children should be allowed to make their own selection from such a breakfast table. They will usually prefer to make an entire breakfast on the raw fruit alone or on raw fruit with nuts, or else to combine the cooked fruit with the grains, adding perhaps milk. The mixing of too many kinds of food at one meal should be discouraged. If the child omits fruit entirely at the meal it will often ask for an apple or the like in the middle of the morning. This should be permitted, since the best time to eat fruits is the first thing in the morning or between meals. As a rule, the child's unperverted appetite will be a safe guide as to the food combinations and the quantity selected from such a table. A little first-class butter may be permitted, if the milk is not as rich as it should be. However, butter being an artificial extract, and largely subject to contamination, the less eaten the better. Besides it has been shown in experiments with geese that butter, although it fattens, induces anemia.

These breakfasts are given merely as suggestions for numerous other combinations, which may prove better under various conditions. The use of apples as the only fruit for long periods of time, especially during the winter, is not objectionable. It is a wise precaution not to allow the child to make an entire breakfast on the breakfast porridge, which should be as firm and dry as is consistent with thorough cooking. Grains and other starchy foods should preferably be eaten dry to insure perfect mastication and digestion. However, fairly good results are obtained by making one moderate helping of breakfast food suffice, and if there is further hunger for cereals to limit the child to dry bread and the like. By so doing, the teeth and mouth are kept clean, which means a more healthy alimentary canal. Furthermore, the danger of undeveloped jaws, lack of room for the teeth, and many ailments such as croup, enlarged adenoids and tonsils, will be lessened in a marked degree.

DINNER SUGGESTIONS

(1) Baked potatoes. If the skins are properly scrubbed before baking and the

potatoes thoroughly baked, and eaten as soon as baked, the skins are good, especially for older children.

Soft-boiled egg.

Lettuce. Baked beets.

From two to four carefully selected dates, according to the age of the child.

Nuts, unshelled for the older children.

(2) Baked beans.

Young celery.

Baked turnips.

Four or five ripe olives.

Poached eggs on whole wheat toast.

Naturally sweet, baked apples. Nuts, unshelled, for the older children.

(3) Baked sweet potatoes. Hard-boiled eggs (pulverized for the young).

Fresh, sweet, peas, served in their own natural sauce without seasoning.

Endive.

Two or three sun-dried black figs.

Nuts, unshelled, for the older children.

(4) Baked lentils.

Baked carrots.

Greens of any edible kind.

Scrambled eggs.

Sweet, fresh cocoanut.

(5) Baked unpolished rice.

Fresh spinach, served in its own natural sauce without seasoning.

Lettuce.

Soft-boiled eggs.

Cooked dried apples, peaches or apricots (before the fresh fruit has come).

Nuts, unshelled, for the older children.

(6) Baked potatoes.

Baked onions.

Celery.

Hard-boiled eggs. (Coddled eggs, for the young children.)

Grape juice and thoroughly ripe bananas for all, and nuts, unshelled, for the older children.

SUNDAY DINNER

(7) Roast chicken or other fowl.

Baked squash.

Baked potatoes.

Greens.

Four or five ripe olives.

Floating Island custard.—(See recipe Chapter IX.)

Nuts may be allowed for young children,

who can masticate them. They are great energy producers and the most solid of all foods. They should, preferably, be freshly cracked at the table.

Well prepared roasts, or pot-roasts, of lamb, mutton or beef, or broiled cuts of the same, or broiled or baked fish may be substituted for eggs, especially during cold weather, and for children who dislike eggs.

Dried fruits such as dates and the like, pure honey from bees which are not fed on artificial syrup, may be allowed in great moderation to take the place of artificially sweetened desserts. For those who believe they must have artificially made desserts, such dried fruits or honey may be used to sweeten all kinds of puddings, pies and cakes, making desserts far less injurious than the usual dessert, sweetened with artificial sugar.

In hot weather, children should be allowed to feast on fruits, which are in season. Fruit being a light food, they will require it at shorter intervals. Hence, children who prefer fruit should be allowed fresh fruit in season or sweet apples between meals the entire year around. If naturally fed children are limited between meals, to dry bread without anything

on it, or good fruit they will not eat just for the sake of eating, but only from real hunger.

SUPPERS

The evening meal should be the lightest of all. Children sleep well on a supper combining dry whole grain bread, such as whole wheat bread, whole corn bread, whole rye bread, or whole oat bread, etc., and baked apples, or other baked or stewed fruits in season. Pure, sweet, clean, whole milk, if it is procurable, or strictly fresh eggs may be allowed. Dr. R. T. Trall said: "Milk when employed at all should always be used moderately . . . . . rather as a seasoning than as part of the food. Very little should be taken at the evening meal, as it is apt to irritate the kidneys, or produce restlessness and uneasy sleep, with feverishness and dryness or bad taste in the mouth." Nuts may be substituted for milk or eggs if desired, especially for older children, although they are sometimes too stimulating for supper. Unleavened bread or crackers made of the whole grain are much more wholesome than fermented bread, the natural sugar of which has been converted by the yeast, or than soda or baking powder bread which at the best con-

tains extraneous salts or other foreign substances. The child may be allowed to take the milk in combination with such homemade unleavened crackers, or a good similar food like "Fruited Cereal," which is made of all of the material in whole grains and sweetened only with plain dried fruits, or "Shredded Wheat" which contains nearly all the grain and is free from any flavoring like artificial sugar or salt. The better way, however, is to eat the dry bread or grain-foods alone, first, and then finish the meal with the cooked fruit. By so doing, the diet and care being otherwise correct, very anemic children may be made red-cheeked and full-blooded.

FOODS WHICH SHOULD NOT BE PERMITTED

Artificial sweets of all kinds, including candy, bakery pies, cakes, artificially sweetened crackers and breads; artificially sweetened canned fruits and jellies; dried fruits which have been dipped in syrups (as is frequently the case with prunes, dates and figs); ice cream (especially bought ice cream made from materials of unknown source and often adulterated); soda water, pop, and foods sweetened with saccharine; glucose, molasses and syrups, malt sugar, and the like.

Vinegar, including all foods containing it, such as pickles, chili sauce, catsups, salad dressings and the like.

Alcoholic beverages, and all soda fountain mixtures, often sweetened with saccharine, the other contents of which it is difficult to ascertain. When one desires to take something at places where soda water is sold, one may usually obtain some good aërated or natural spring waters, or grape juice, such as Welch's made without artificial sugar and consequently more likely to be made of good, ripe, sweet grapes.

Among the other foods or food adjuncts which should not be given are:

Coffee, tea, chocolate, cocoa, and boiled milk;* fried foods of all kinds; greasy gravy without meat; dried fruits which have been dipped in syrup or have been treated with sulphuric acid to bleach them; gelatine, as it is generally manufactured; and artificial flavorings.

The whole vanilla bean, fresh lemons, cocoanut, oranges, dates, etc., make good, healthful flavorings.

It is also safer to avoid giving any bought canned fruits and vegetables of unknown con-

*See Addenda, 148.

tents. These frequently contain artificial preservatives, colorings and adulterations and sometimes cause metal poisoning.

The use of properly dried or dehydrated fruits and vegetables is preferable to the indiscriminate use of canned products put up with preservatives or in metal containers. However, one should never lose sight of the fact, that there is no perfect substitute for fresh fruits and vegetables, all of which contain a large percentage of natural water highly solvent, and essential for the building of new tissues and the carrying away of the old.

Constipation and other bowel troubles are unknown to children who are correctly fed. If they are limited in regard to soft foods and required to test their hunger by dry bread, made from whole grains, and the like, toward the end of meals, over-eating is impossible. Being perfectly nourished, a child will have no inclination to over-eat, and will not crave artificially sweetened foods. A child so fed is to be congratulated since, other conditions being correct, it always feels well and enjoys a keen appetite for really good food, and it does not even know what it is to have a morbid, perverted appetite. By the above mentioned

simple living, the average child may become strong, energetic, full of vim and the joy of living. The eye is bright, cheeks are red, teeth are more perfect—provided the prenatal teeth formation has not been injured by incorrect habits of the mother, or otherwise—and the entire countenance is radiant with good health. Such a child has a far greater resistance to disease than the child which has been improperly fed. One is only too often saddened by the sight of the victims of incorrect diet, evidenced sometimes by a pale, flabby, fat condition, and frequently by thin cheeks, legs and arms. Many of such improperly fed children never feel free from stomach or bowel troubles, and have a listless manner, defective teeth, or eyes dull and lusterless.

IX.

Dietetics and Recipes

(1) Modified Milk and Bottle-Feeding

The modification of cow's milk is outside of the scope of a work on the natural care of the child. Too great emphasis cannot be laid upon the importance of the natural breast-feeding. Statistics show, that seven bottle-fed babies die to one that is breast-fed.

All seem to agree that no very young infant can thrive long without some sort of milk, even if it is added only in small quantity to some other food. Hence the modification of cow's milk to somewhat approach the qualities of mother's milk has been much valued especially in an age, when the prevalent use of artificial sugar and vinegar, fine white flour and the like, has made it very difficult for women to nurse their babies. On the other hand such knowledge may have led to over confidence in artificial means, to the too ready advising by physicians to wean infants early, and to the unnatural willingness on the part of mothers to give up one of the greatest privileges of life.

The price for our artificial manner of living has been paid by the poorer classes, who have brought up the infant mortality rate so high. They are not too poor to indulge themselves in unnatural extracts and hence, lose their milk early, and yet they have less time or knowledge to cope with the dangers of bottle-feeding. It is my experience and observation in the weaning of children, that the use of sugar extract of any kind, even sugar-of-milk extract, is a mistake. Often the addition of such unnatural extracts is the main reason why modified milk or some prepared foods disagree so markedly with some children, and it is equally true that often some prepared or so-called patent food, which omits artificial sugar, seems to agree better when the other elements contained therein are no better than those found in other foods. I have known of cases, in which the child had pronounced symptoms of anemia from modified milk containing sugar-of-milk extract, and was cured by the omission of this extract. It induces diarrhea, vomiting and other forms of indigestion, not to mention more dangerous disorders such as, pneumonia, bronchitis, diseases of malnutrition and mineral-starvation. If cane sugar extract is used

instead, the symptoms peculiar to the use of cane sugar extract are the result.

It should be noted that Dr. L. Emmet Holt, although still advocating the use of a very small proportion of sugar-of-milk and other sugar extracts in the modification of cow's milk, advises its reduction in the case of special symptoms, such as habitual vomiting, flatulence and colic. In regard to the use of "desserts and sweets" for children in general, he says:

> "No causes are productive of more disorders of digestion than the free indulgence in desserts and sweets by young children. It is a constantly increasing tendency, not easily controlled as a child grows older and in early childhood, the only safe rule is to give none at all."

There is no doubt that this "constantly increasing tendency" is due in part to starting the bottle-fed baby on artificially sweetened, modified milk. Having raised such a child on a sweetened dessert, we should blame ourselves for its perverted appetite for "desserts and sweets." A normal child nurtured normally from birth (breast-fed) has absolutely no

craving for sweets beyond what can be supplied by natural foods.

For some time beet sugar extract has been supplanting cane sugar extract for household use, until at the present time, beet sugar is used more than cane sugar. Should we not look to such changes as this for the causes of so-called new diseases? Infantile paralysis, for example, is an old disease, the prevalence of which alone is comparatively new. It is known that the excessive feeding of sugar beets to cattle without enough roughage, like hay, to counterbalance, causes paralytic symptoms. Should not such facts as these lead us, in looking for the causes of infantile paralysis and other diseases, to give more attention to food and habits of living? (See Infantile Paralysis, Chapter X.)

(2) WARMING OF MODIFIED MILK

The best prepared food containing milk will often be found to disagree with the child largely from the fact that the milk has been subjected to a too high temperature in preparing or warming it for the baby. A double-boiler is the only safe vessel in which to warm milk or anything containing it. The water in the lower part of the double-boiler should be no hotter

than water in which the hand may remain immersed without discomfort. This method takes a little longer, but avoids any chance of injuring or of destroying some of the nutritive elements in the milk. Milk injured by overheating has a constipating effect on the baby. To remove this symptom by a laxative does not correct the injury, but adds to it. The safest way is, to heat the water first and remove from the stove, before putting the milk in the inner vessel. A little woolen bag may be fastened about the bottle to keep it from becoming too cold during the period in which the baby nurses, which in order to insure the proper quantity of saliva for digestion, should never be less than twenty minutes.

(3) BARLEY WATER, OATMEAL, RICE OR WHEAT GRUEL, ETC.

Barley water, which is constipating to most babies overcomes the laxative effect of the sugar-of-milk, merely correcting the symptom, but not evercoming the real danger, the acid condition of the blood which results from the use of such unnatural extracts. Oatmeal gruel is also the cause of much bowel trouble. A child whose organs are too undeveloped to

digest starches and who refuses the different grains offered in the form of mushes, should never be cheated or compelled to take them mixed with its modified milk. A vigorous child may overcome the injury, showing bad symptoms by vomiting only at teething times. It is safe to gratify the appetite which a teething child has for dry bread, dry, unsalted pretzels or even dry biscuits or crackers, provided one is absolutely certain they are not made with any artificial extract such as sugar, molasses, fine white flour, etc., or with baking powder, adulterations like soda, or other chemicals, which some bakers use. The tremendous flow of saliva digests the little dry starch the baby thus obtains, which if allowed in larger quantities, and as a mush, would not be digested and would cause sour stomach.

COOKED BREAKFAST CEREALS

When children are old enough to digest starches without causing acid indigestion, they may be allowed, in moderation, breakfast cereals made from the entire grains, provided they are cooked long enough.—(See recipe below.) They should, however, never be allowed to eat mushes daily, or to make an entire meal on

soft mushes. After one good helping, if they desire more grain food, they should then be limited to dry cereals such as dry bread, triscuit, unsalted pretzels and the like.

Whole Wheat Porridge. Put the whole wheat berry to soak in fresh cold water using about three times as much water as grain. Let it soak for about eleven hours. Boil it in the same liquid in which it soaked, in the inner vessel of a double-boiler, watching it carefully to prevent burning. When the liquid is well absorbed and before there is danger of burning, place the inner vessel in the outer vessel of the double-boiler containing boiling water and keep it gently boiling for about ten hours.

This recipe may be followed in making porridges of other grains such as whole brown rice, whole brown barley, whole oats, etc.

(4) DRY BREAD

WHOLE WHEAT BREAD—FOR FOUR LOAVES

Two quarts of whole wheat flour, which must usually be bought from a private mill, as most flour-mills extract much of the bran and gluten of the real whole wheat and admittedly furnish no real whole wheat flour.

One small cake compressed yeast, dissolved in a cup of lukewarm water. The liquids including the warm water with added butter, if desired, and the cup of warm water, in which yeast is dissolved, should altogether amount to one and one-half quarts.

Add the flour to the lukewarm liquid, and work with spoon, hands, or good bread-mixer from three to five minutes. Let rise in covered pail or pan in sheltered spot, free from drafts and jars, until it is about twice the original bulk. Stir, in the bread mixer, until the dough forms a ball, or otherwise knead well. Form into loaves. Place in bread tins, greased with good butter, prick with fork, and smear good, melted butter over tops and sides of loaves. Cover and let rise as before. With a sharp knife cut along one of the long sides of the bread tins, between the loaf and the tin. This affords an outlet for surplus gas. Bake in oven which has first been heated. If gas oven is used, heat it about ten minutes, put in bread, and after about ten minutes turn flame low and allow the bread to remain in the oven one and three-quarters hours, turning bread tins at least once to prevent scorching.

When bread is cold, cut loaf into slices and

place so that they will dry, protected from dust, and be fit for use the following day. Fresh bread continues to undergo some fermentation from the yeast, after baking, and is a great cause of indigestion, sick headache, flatulency and tartar on the teeth. It is not fit for use until at least twelve hours old. In damp weather the slices cut as above mentioned may be dried in the oven, with the door open.

RYE BREAD—FOR FOUR LOAVES

Four quarts Bohemian rye and wheat flour mixture. Some prefer half and half and some only ⅓ rye to ⅔ spring wheat.

One and one-fourth quarts liquid, including butter if desired, yeast and water or milk. Prepare and bake as before described for whole wheat bread, except that it requires only one and one-half hours in the oven. Rye bread burns very readily and hence requires much watching.

SO-CALLED "WHOLE WHEAT BREAD"

(NOTE. The term "so-called whole wheat" is used to designate a commercial product, which does not include all of the wheat, although it has come to be known on the market as "whole wheat" or "entire wheat."

The "so-called whole wheat" flour may be obtained from most grocers. They rarely keep in stock the real whole wheat flour, because it attracts weevils. The less the food value of a flour the less likelihood of its being attacked by weevils.*

4½ quarts of so-called "whole wheat" flour.

1½ quarts liquid including butter, yeast and water or milk. Prepare and bake, as before described, for real whole wheat bread, except that it requires only one and one-half hours in the oven.

CORNMEAL-AND-WHEAT BREAD

1½ cups water.

½ cake compressed yeast.

1 cup cornmeal.

2 cups wheat flour.

Pour 1¼ cupfuls of the water over the cornmeal, and heat gradually to the boiling point or nearly to it and cook twenty minutes. This cooking can be done best in a double-boiler. The water is sufficient only to soften the meal a little. Allow the meal to cool to about the temperature of the room and add the flour and yeast, mixed with the rest of the water. Mold thoroughly, let rise until it doubles its

**See* Addenda, p. 277.

bulk, make into a loaf, place in a pan of standard size, allow to rise until it nearly fills the pan, and bake 45 or 50 minutes.

RICE BREAD

1 cup lukewarm water.
1 cup uncooked rice.
½ cake compressed yeast.
2 cups wheat flour.

Steam the rice with one-half of the liquid until it is soft. This is done better in a steamer than in a double-boiler, for the liquid is so small in amount that the rice does not become soft readily, and the presence of the steam helps. Add the remaining liquid (½ cupful). When the mixture has become lukewarm add the yeast and ½ cupful of flour. Allow this sponge to rise until very light. Add the boiled rice, which should have been cooled until lukewarm, and the rest of the flour. This dough is so thick that some pressure is required to work in the last portions of the flour. Allow the dough to rise until it has doubled its bulk, form into a loaf, place in a pan of standard size, allow it to rise until it nearly reaches the top of the pan, and bake.

ROLLED-OATS BREAD

2 cups boiling water.
1 yeast cake.
¼ cup lukewarm water.
1½ cups rolled oats.
5 cups whole wheat or rye flour.

Dissolve the yeast cake in the lukewarm water. Pour the boiling water over the rolled oats, and let stand until lukewarm; add the dissolved yeast and flour. Let rise until very light, beat thoroughly, and turn into two buttered bread pans. When the loaves have doubled their volume, bake them an hour in a moderate oven.

CORN BREAD (RAISED WITH BEATEN WHITES OF EGGS)

2 cups whole wheat
2⅔ cups whole yellow cornmeal
2½ cups milk
2 pinches salt, or better none
6 or 8 eggs. Whites must be separated very carefully from the yolks and beaten as stiff as possible. The whites should be folded into, stirred into, the batter. This should be the thing before baking, as this is the only rais-

ing medium employed. No baking powder or soda should be used as it is injurious, especially to children. Pour into bread tins, greased with good butter. Bake in moderate oven about ¾ hour. Good, warm or cold.

Do not serve hot or fresh.

WHOLE GRAIN FLOUR MUFFINS OR GEMS

Make same as corn bread, using a little more or less wheat flour, as above, according to the flour, and one's experience. Bake either in bread tins or muffin rings.

Do not serve hot or fresh.

(5) WAFFLES

1½ cups flour. Whole wheat is preferable to fine white flour. Cornmeal, rye-flour, oatmeal and other meals or flours may be used with the wheat.

½ teaspoon salt

1¼ cups milk

2 tablespoons good melted butter

3 eggs

Separate whites from yolks and beat separately. Beat in well-beaten yolks and lastly fold in beaten whites, do not stir. Whites must be as stiff as possible, because no baking pow-

der or soda is used. Pour this batter from a pitcher and have the greased waffle iron very hot.

It is better for children to eat waffles cold, and sparingly.

(6) BUCKWHEAT CAKES

1 cup buckwheat
1 tablespoon cornmeal
¼ teaspoon salt
1¾ cups milk (not sour)
3 eggs; yolks and whites beaten separately.

Put beaten yolks in first and beat well. Then fold in, not stir, whites which have been first beaten as stiff as possible. Fry on hot griddle with only enough frying butter or vegetable oil to prevent burning.

A soapstone griddle with no butter or oil is better.

The use of eggs as a leaven has been criticized from the standpoint of economy. No doubt the breakfast table, which supplies boiled eggs separately and then baking powder cakes or bread with syrup, appears to better advantage to the uninformed, than the one which supplies egg-raised buckwheat cakes and milk to drink. If any sweetening is to be eaten with

the cakes it should be some natural sweet, like honey or naturally sweet, cooked fruits.

Syrups are injurious and never economical. The United States Dept., of Agriculture, Bulletin No. 93, says, in regard to economy in the use of syrup:

> "In some dietary studies made under the auspices of this department with a club of students at the University of Maine, the effect was studied of supplying a liberal amount of maple syrup in connection with a diet which was known to furnish an abundance of nutriments. The syrup was evidently relished and considerable amounts were eaten. However, there was *not a corresponding decrease in other foods:* on the other hand, the amount of flour was in excess of the amount ordinarily consumed. It would seem that the maple syrup and flour, in the form of griddle cakes, were consumed simply on account of their agreeable flavor. Provided the diet contained sufficient nutriments in the first place, this increase was not desirable on the ground of economy, and it may be questioned whether it was desirable from the standpoint of health. When a similar comparison was made of the addition of milk in liberal amounts to the

diet, it was found that there was a corresponding decrease in the amount of other foods consumed."

Many claim that syrup, sugar extract and the like are heat producers and of benefit in cold weather. This is somewhat similar to the mistake of the teamster who stops often at the saloons hoping to get warmth by whiskey drinking. He gets at first a sensation of warmth, but the reaction, the reverse, is the lasting effect, and he is paving the way to pneumonia. Such extracts, as artificial sugar extract, cause reddening and irritation of the mucous membrane, calling the blood inward. This, of necessity chills the surface of the body and makes one very sensitive to cold.

(7) UNLEAVENED BREAD—(SEE UNLEAVENED CRACKERS)

Unleavened bread when properly made is the most wholesome of all breads. This is true for at least two reasons; first, because it is free from yeast and all chemicals such as are used for making yeast-raised bread and so-called unfermented bread, and second, because it is harder to masticate. (See Suppers, Chapter VIII.) The fact that it is harder to masti-

cate insures a more thorough mixing with the saliva, the main digestive fluid for such food. In most countries, unleavened bread is used. The earliest kinds of bread were made entirely without fermentation. The grain was pounded on smooth stones to make it as fine as possible and then made into dough with cold water, thoroughly kneaded and baked in various ways. The Israelites rolled it into thin cakes called unleavened bread or "Passover cakes." The Irish and Scotch peasantry who come to this country red-cheeked and in many instances with perfect teeth subsist largely on unleavened bread made from barley and oats. Many of us are familiar with Swedish unleavened bread. Many Indian tribes subsisted chiefly upon very good corn bread made simply of cornmeal and water.

Chemical substances, such as cream of tartar, soda, patent baking powder, alum and the like, cannot be used by the system and are a tax upon the liver and excretory organs. It has also been noted that the above mentioned chemicals retard digestion.

Mrs. Ella E. Kellogg of Battle Creek Sanitarium says: "These substances are fortunately not necessary for the production of

good light bread. The purpose of their use is the production of a gas; but air is a gas, much more economical and abundant than carbonic acid gas, which when introduced into bread and subjected to heat has the property of expanding and in so doing, puffing up the bread and making it light. Bread made light with air is vastly superior to that compounded with soda or baking powder in point of healthfulness, and when well prepared will equal it in lightness and palatableness. The only difficulty lies in catching and holding the air until it has accomplished the desired results."

INSTRUCTIONS FOR AËRATED BREAD

Aërated breads are of two kinds: those baked while in the form of a batter, and such as are made into a dough before baking.

All breads, whether fermented or unfermented, are lighter if baked in some small form and this is particularly true of unfermented bread made light with air. For this reason breads made into a dough, are best baked in the form of rolls, biscuits or crackers, and batter breads in small iron cups. The more shallow cups are preferable. For baking the dough breads, a perforated sheet of Russia

iron or heavy tin which any tinner can make to fit the oven, is the most serviceable as it permits the hot air free access to all sides of the bread at once. If such is not obtainable, the upper oven grate, carefully washed and scoured, may be used. Perforated pie tins also answer very well for this purpose. The heat of the oven for baking should be sufficient to form a slight crust over all sides of the bread before the air escapes, but not sufficient to brown it within the first fifteen minutes. To aid in forming the crust on the sides and bottom of batter breads, the iron cups should be heated previous to introducing the batter. The degree of heat required for baking will be about the same as for fermented rolls and biscuits, and the fire should be so arranged as to keep a steady but not greatly increasing heat. Air is incorporated into batter breads by brisk and continuous agitating and beating; into dough breads by thorough kneading, chopping with a knife or chopper, or pounding.

Whatever the process by which the air is incorporated, it must be *continuous*. For this reason, it is especially essential in making aërated bread that everything be in readiness before commencing to put the bread together.

All the materials should be measured out, the utensils to be used, in readiness, and the oven properly heated. Success is also dependent upon the dexterity with which the materials when ready are put together. Batter bread often proves a failure, although the beating is kept up without cessation, because it is done slowly and carelessly, or interspersed with stirring, thus permitting the air to escape between the strokes.

If the bread is to be baked at once, the greater the dispatch, with which it can be gotten into a properly heated oven, the lighter it will be. Crackers, rolls and other forms of dough breads often lack in lightness, because they were allowed to stand some time before baking. The same is true of batter breads. If, for any reason, it is necessary to keep such breads for any length of time after being prepared, before baking, set the dish containing them directly on ice.

The lightness of aërated bread depends not only upon the amount of air incorporated in its preparation, but also upon the expansion of the air during the baking. The colder the air, the greater will be its expansion upon the application of heat. The colder the materials em-

ployed then, for the bread-making, the colder will be the air confined within it, and the lighter will be the bread. For this reason, in making batter bread, it will be found a good plan, when there is time, to put the materials together and place the dish containing the mixture on ice for an hour or two, or even over night. When ready to use, beat thoroughly for ten or fifteen minutes to incorporate air, and bake in heated irons. Rolls and other breads made into a dough, may be kneaded and shaped and put on ice to become cold. Thus treated, less kneading is necessary than when prepared to be baked at once.

Many of the recipes given for the batter breads include eggs. The yolk is not particularly good as a leaven and if it can be put to other uses may be left out. The white of an egg, because of its viscous nature, serves, when beaten, as a sort of trap to catch and hold the air, and added to the bread aids in making it light. Very nice light bread may be made without eggs, but the novice in making aërated bread will, perhaps, find it an advantage at first to become perfectly familiar with the processes and conditions involved, by using the recipes with eggs before using those without,

which are somewhat more dependent for success upon skill and practice. When egg is used in the bread, less heating of the irons will be necessary and not so hot an oven as when made without.

If the bread when baked appears light, but with large holes in the center, it is probable that either the irons or the oven was too hot at first. If the bread after baking seems sticky or dough-like in the interior, it is an indication that either it was insufficiently baked or that not enough flour in proportion to the liquid was used. A heavy bread may be the result of the use of poor flour, too much flour, careless or insufficient beating, so that not enough air was incorporated, or an oven not sufficiently hot to form a crust over the bread before the air escaped. Breads made into a dough, if moist and clammy require more flour or longer baking. Too much flour will make them stiff and hard.

The length of time requisite for baking aërated bread made with whole grain flours such as whole wheat, graham flours, etc., will vary from forty minutes to one hour according to the kind of flour or flours, the form in which the bread is baked and the heat of the oven.

The irons in which batter breads are to be baked should not be smeared with grease; if necessary to oil them at all, they should only be wiped out lightly with a clean, oiled cloth. Irons well cared for, carefully washed, and occasionally scoured with sapolio to keep them perfectly smooth will require no greasing whatever.

In filling the irons, care should be taken to fill each cup at first as full as it is intended to have it, as the heat of the iron begins the cooking of the batter as soon as it is put in and an additional quantity added has a tendency to make the bread less light."

RECIPES FOR UNFERMENTED BREADS

From Mrs. Kellogg's "Science in the Kitchen," with modifications by the author.—(See note following recipes.)

Whole-Wheat Puffs.—Put the yolk of an egg into a basin, and beat the white in a separate dish to a stiff froth. Add to the yolk, ½ a cupful of rather thin sweet cream and 1 cupful of skim milk. Beat the egg, cream and milk together until perfectly mingled and foamy with air bubbles; then add, gradually, beating well at the same time, 1 pint of whole wheat-berry flour. Continue the

beating vigorously and without interruption for eight or ten minutes; then stir in, lightly, the white of the egg. Do not beat again after the white of the egg is added, but turn at once into heated, shallow irons, and bake for an hour in a moderately quick oven. If properly made and carefully baked, these puffs will be of a fine, even texture throughout, and as light as bread raised by fermentation.

(NOTE. A mixture of equal parts of whole wheat or whole rye flour, with the various other whole grain flours, may be substituted for the whole wheat flour.)

Whole-Wheat Puffs No. 2.—Make a batter by beating together until perfectly smooth the yolk of 1 egg, 1½ cups of new or unskimmed milk, and 1 pint of whole wheat flour. Place the dish containing it directly upon ice and leave for an hour or longer. The bread may be prepared and left on ice over night if desired for breakfast. When ready to bake the puffs, whip the white of the egg to a stiff froth and after vigorously beating the batter for ten minutes, fold in lightly the white of the egg; turn at once into heated irons and bake. —(See note above.)

Whole-Wheat Puffs No. 3.—Take 1 cupful of sweet cream (twelve hour cream), ½ cupful of soft ice water, and 2 slightly rounded cupfuls of wheat-berry flour. Beat the material well together, and set the dish containing it on ice for an hour or more before using it. When ready to bake, beat the mixture vigorously for ten minutes, then turn into heated iron cups (shallow ones are best) and bake for about an hour in a quick oven.—(See note above.)

Currant Puffs.—Prepare the puffs as directed in any of the foregoing recipes with the addition of 1 cup of currants, which have been well washed, dried and floured.

Rye Puffs.—Beat together until well mingled 1 pint of thin cream and the yolk of 1 egg. Add gradually, beating meanwhile, 4 cups of rye flour. Continue to beat vigorously for ten minutes, then add the stiffly beaten white of the egg and bake in heated irons.

Rye Gems.—Mix together 1 cupful of cornmeal and 1 cupful of ryemeal. Stir the mixed meal into 1½ cupfuls of ice water. Beat the batter vigorously for ten or fifteen mintues, then turn into hot irons and bake.

Corn Puffs.—Take 1 cupful of cold mashed potato and 1 cupful of milk, rubbed together through a colander to remove all lumps. Add the yolk of 1 well beaten egg, and then stir in slowly, beating vigorously in the meantime, 1 cupful of good cornmeal. Lastly, stir in the white of the egg, beaten to a stiff froth, and bake in heated irons in a rather quick oven.

Oatmeal Gems.—To 1 cupful of well cooked oatmeal, add ½ cupful of rich milk or thin cream and the yolk of 1 egg. Beat all together thoroughly; then add, continuing to beat, 1⅓ cupfuls of whole grain flour, and lastly the stiffly beaten white of the egg. Bake in heated irons.

Snow Gems. — Beat together, lightly but thoroughly, two parts clean, freshly fallen, dry snow, and one part best granular cornmeal. Turn into hot gem irons and bake quickly. The snow should not be packed, in measuring, and the bread should be prepared before the snow melts.

Bean Gems.—Prepare the gems in the same manner as for whole-wheat puffs, using ½ cup of milk, 1 egg, 1 cup of cooked beans which have been rubbed through a colander, 1 cup

and 1 tablespoon of whole grain flour. A little variation in the quantity of the flour may be necessary, dependent upon the moisture contained in the beans, although care should be taken to have them quite dry.

Beaten Biscuit.—Into a quart of whole-wheat flour mix a large cup of thin sweet cream. Pour the liquid into the flour slowly, a few spoonfuls at a time, mixing each spoonful to a dough with the flour as fast as poured in. The dough must be very stiff, and rendered soft and pliable by thorough kneading, and afterward pounding with a mallet for at least half an hour in the following manner: Pound the dough out flat, and until of the same thickness throughout; dredge lightly with flour; double the dough over evenly, and pound quickly around the outside, to fasten the edges together and thus retain the air within the dough. When well worked, the dough will appear flaky and brittle, and pulling a piece off, it will quickly cause a sharp, snappy sound. Mold into small biscuits, making an indenture in the center of each with the thumb, prick well with a fork and place on perforated sheets with a space between, and put at once into the oven. The oven should be of the same tem-

perature as for rolls. If they are "sad" inside when cold, they were not well baked, as they should be light and tender. . . . Excellent results are also obtained by chopping instead of pounding the dough.

Blueberry Gems.—To 1 cupful of rich milk, add the yolk of 1 egg. Beat well till full of air bubbles; then add, gradually, 1 cupful of graham flour and 1 cupful. . .cornmeal. Beat vigorously until light; stir in the beaten white of the egg, and 1 cupful of fresh, sound blueberries. Bake in heated irons in a moderately quick oven.

Chopped sweet apples may be used instead of berries.

Fruit Crackers.—Prepare a dough with 1 cup of cold, sweet cream and 3 cups of whole grain flour, knead well, and divide into two portions. Roll each quite thin. Spread one thickly with dates or figs, seeded and chopped; place the other one on top and press together with a rolling pin. Cut into squares and bake. An additional 1/4 of a cupful of flour will usually be needed for dusting the board and kneading.*

*In the above recipes the author has substituted whole grain flour, for graham and white flour and has omitted artificial sugar, salt, etc.

(8) CORN PRETZELS OR CRACKERS

One-third whole wheat flour
Two-thirds whole yellow cornmeal
Cold water. Eggs may be added or not.

Knead for ten minutes. Cut and roll into pretzels, or crackers.

Bake on flat tins in moderate oven.

(9) UNLEAVENED CRACKERS

Four quarts whole grain flour — (see note p. 184).
Cold water.
Three eggs.

Mix eggs and water thoroughly before mixing with flour. Knead for twenty minutes, adding flour if necessary to make a stiff dough.

Cut and roll out about one eighth of an inch thick. Prick closely with fork, and cut into pieces the size of a soda cracker. Bake on flat tins in top part of a very quick oven.

Have oven hot when they are put in and cool each tin before adding fresh crackers to bake. By adding raisins, or the like, which have been previously boiled and dredged with flour, with or without butter for shortening, they make a very good substitute for cookies.

Such foods even when made with the best

butter and raisins should not be given to children except in moderation.

Such unleavened crackers and pretzels are delicious made of barley flour. They can be made of any flour. Children should not eat them fresh but wait until they are about twelve hours old. They keep a long time, especially when made without eggs or butter.*

(10) PRESERVED FRUITS

It is a mistake to think that the addition of sugar is essential for the preservation of canned fruits. They will keep just as long without it, and children can then eat them as staples, not as delicacies, and derive great benefit from them, especially in hot weather and at teething times, since they purify the blood and help overcome inflammation. Grape seeds, apple peelings and the like, provided a child likes them, are good for a child whose intestines are not in an inflammatory condition from the taking of sugar extract and the like.

*Some of the best kinds of unleavened bread or crackers made from mixtures of various whole grain meals or flours are: 1. Wheat and cornmeal in equal proportions. 2. Equal parts of wheat meal and oatmeal. 3. Equal parts of rye and Indian meals. 4. Equal parts of rye and oatmeal. 5. Equal parts of rye, cornmeal and wheat meals. 6. Two parts of ryemeal to one of cornmeal. 7. Two parts of cornmeal to one of ryemeal. 8. Two parts of cornmeal to one of rye flour. 9. Equal parts of rye, oat and wheat flours. 10. Equal parts of cornmeal, oat and rye flours. 11. Equal parts of barley, oat and rye flours. 12. Equal parts of cornmeal, rye and barley flours.

GENERAL DIRECTIONS FOR PRESERVING FRUIT WITHOUT ARTIFICIAL SUGAR

Only perfectly good fruit should be used. Unsound and over-ripe fruits are not made wholesome by cooking. If sweet preserves are desired, choose naturally sweet, ripe fruit. If the fruit is subject to discoloration, cover it (as soon as cut) with cold water. Use a porcelain-lined, granite, or aluminum kettle, and a granite, wooden or silver spoon. Prepare the jars by placing them on their sides in a kettle of hot water so that the water completely covers the jars, inside and out. Sterilize them by boiling, together with the removed covers, from five to twenty minutes. When the jars are sterile and evenly heated, remove each jar in turn as it is to be filled, and place on a dry board or table. Jar and fruit should be boiling hot when the jar is filled. Great care should be used not to make the fruit or the jars unsterile by contact. It is this sterilization, together with the exclusion of germ-laden air, which prevents decay. Fill the jar perfectly full and wipe off the neck of the jar quickly. Drop the rubber ring for a few seconds in the hot, sterile water. Put it in place and screw on the sterilized cover. Set the jars away to cool, upside

down. When cool, dip the covers into melted paraffine, so as to seal more securely, and put the jars away right side up in a dark, cool, dry place.

1. *Apples*—Pare or not, according to taste, preferably leaving the peeling on as it contains valuable food elements. Quarter or cut finer, and boil with at least enough water to well cover the bottom of the kettle according to the juiciness of the apples. When soft and well cooked through, pour boiling hot into the jars and seal according to general directions above.

2. *Crab-apples*—Crab-apples may be cooked entire, even with the stems. There must be enough juice to fill all the spaces between the crab-apples and fill the jar brim full. Can, according to general directions above.

3. *Peaches or Apricots*—Peel or not according to taste, preferably leaving the peeling on as it contains valuable food elements. Cut into halves, leaving in some stones. Add water, enough to make plenty of juice to well fill all spaces, in canning. Boil fifteen to twenty minutes. Can, according to general directions.

4. *Plums*—Cut in halves, removing stems

and stones. Cover the inside of bottom of kettle with water to avoid burning. Boil fifteen to twenty minutes. Can, according to general directions.

5. *Pears*—Pare or not, as desired; preferably leaving peelings on as they contain valuable food elements; cut in halves and remove core. Put at once into cold water to prevent discoloration. Use enough water to provide the juice, and boil very slowly until tender in the same water in which they were first placed. Can, according to directions before stated.

6. *Strawberries, Raspberries, Blackberries, Currants, Gooseberries, Huckleberries, etc.*—Pick over and wash, then put into preserving kettle with small quantity of water to prevent burning. Cook until soft, and can, according to general directions before stated.

7. *Cherries*—Stone fruits, and can, same as berries.

8. *Cranberries*—Boil cranberries for forty-five minutes in enough water to prevent burning. After they have been cooking one-half hour, if desired to sweeten, add sweet apples cut up fine, with the peelings, according to

taste. Cook until the apples are soft. Can, according to directions before stated.

9. *Tomatoes*—Parboil and peel, or better cut up with the peelings which are valuable. Add enough water to prevent burning. Boil gently about one-half hour. Can, according to general directions.

Honey is a more wholesome sweetening than artificial sugar, for those who either insist on sweetening preserves or wish to use fruits, which are otherwise too sour for their taste.

10. *Bar-Le-Duc Preserves* — These preserves are the finest of their kind and do not need to be kept absolutely air tight. They are put up by using honey as a preservative.

Illustration: Take selected red or white currants of large size; removing the seeds and, preserving the shape of the fruit if desired. The skin of the fruit should be punctured either by removing seeds or by stirring. Take the weight of the currants in honey, and when this has been heated, add the currants. Let it simmer a minute or two and then seal as for jelly. The currants are of a beautiful color, and are nutritious and palatable. Care should

be exercised not to scorch the honey; then you will have fine preserves.

11. *Honey Jelly*—To 1 cup of fruit juice add 1 cup of honey. Boil from 15 to 20 minutes. It is very necessary to be careful in the boiling; otherwise the jelly will taste of caramel, the product formed when honey is burned.

(11) BAKED VEGETABLES

Baking is the most perfect way to cook vegetables, especially the starchy ones, which it renders dry and mealy so that they excite the flow of the saliva. It is a mistake, in giving them to a young child, to add milk or butter. The peelings of potatoes and the like, which have been well scrubbed before baking are a positive benefit provided the child likes them and can masticate them.

1. *Baked Beets*—Beets are far better baked than boiled. French cooks bake them slowly six hours in a covered dish, the bottom of which is lined with moistened rye straw. The easiest way to bake them is to treat them like potatoes. Scrub well, wipe dry, but bake them slowly placing a pan of water in the oven near them. They may also be baked like baked apples with a very little water. The

oven should be moderate and they should be baked slowly from two to three hours according to the size of the beets. When they are tender, the skins may be removed or not according to taste.

2. *Baked Turnips* — Turnips are much sweeter baked than when cooked any other way. They may be baked like potatoes after scrubbing and wiping dry, on the top grate of a moderately hot oven. If large they should be cut into pieces. They should be baked at least two hours or longer until perfectly tender. They may be peeled or not according to taste, and like potatoes are best when served at once.

3. *Baked Parsnips*—Baked parsnips are much sweeter than boiled ones. After scrubbing thoroughly, they may be baked the same as potatoes. They may also be baked like baked apples. The time of baking may be greatly shortened by first placing them in boiling water, using no more water than is necessary to cook them and boiling them gently until tender. They should then be baked in the same liquor in which they were boiled. When finished the juice should be about all absorbed and the parsnips should be a delicate brown.

4. *Baked Cabbage*—Take young, white cabbage and boil it whole until tender. Then place it in a porcelain baking-dish in the same liquor in which it was boiled and bake like baked apples until lightly browned.

5. *Baked Beans*—Wash and soak 1 quart of dried navy beans in 2 quarts of cold water for about ten hours. Bring to the boiling point and then steam for eight hours in a double-boiler keeping the flame no higher than necessary to keep the water in the lower vessel at the boiling point. One must add water to the lower vessel so as to keep the upper vessel in water. Bake in moderate oven for two hours until the beans are slightly brown on top. Other dried leguminous vegetables such as peas, lentils and other varieties of beans are good when similarly prepared.

(12) BUTTER

Even when butter is absolutely pure, free from coloring and adulteration, and of the very best quality, a child is far better off without any. If the milk is a little below standard in the proportion of cream, a very young child may be allowed a little butter of the very best quality and, preferably, unsalted. However, if

the milk is unskimmed and always stirred before using, insuring the proper proportions, the child's digestive apparatus is quite adequate to extract for itself all the fat it has failed to derive from other foods and with no danger of clogging the system with an extract, and taxing the organs of elimination to get rid of what is superfluous.

Older children should substitute nuts, rich in fats and minerals, for butter and milk which in their case tend to cause anemia.

(13) EGGS

1. *Albumen Water*—The white of 1 fresh egg and about 4 cups of cold water. Shake thoroughly. This may be fed cold to a very young infant, either with a spoon or from a bottle. It is recommended, in cases of vomiting and indigestion.

2. *Coddled Egg*—Place a fresh egg with the shell on, in boiling water. Remove the water at once from the fire. Allow the egg to remain about seven minutes in the water which has been boiled. When finished the white of the egg will be very slightly cooked and like jelly. One should begin by feeding the white of the egg only, and perhaps only a part of

that the first time according to the age and the digestion of the child. Later, the child may relish and be able to digest the entire egg.

A very young, well-nourished child, is better off without any egg unless one can be sure that the eggs are the best and the freshest.

3. *Hard-Boiled Eggs*—The egg should be placed with the shell on, in boiling water and should continue to boil from ten to twenty minutes. The hot water should be poured off at once and the egg should be placed in cold water to facilitate the removing of the shell. For very young children such eggs should be thoroughly powdered or mashed before feeding.

(14) SOUPS

The constant use of meat soups for children is a great source of useless labor as they do little more than tax the bladder. It is best to leave the meat fibre in such soup. For very young children this should be very finely divided. Vegetable soups made from the left-over juices in preparing vegetables (even water from clean boiled potatoes) are good, but preference should be shown to dry foods which keep the teeth clean and which tend to

keep clean the alimentary tract besides exciting the flow of saliva and giving proper exercise to develop the jaw.

(15) MEAT AND FISH

Meat has no place in the diet of a very young child who is otherwise properly fed. Fried meats or fried fish should never be used. Broiled and roasted meats or fish are preferable. In making pot-roast, the best way after browning the meat is to cook it in its own juice in an airtight vessel. One can obtain vessels for pot-roasts, the covers of which may be screwed on, so as to retain all the food elements.

(16) DESSERTS

The most perfect dessert for a child is cooked fruit. Of course, in the main, raw fruits are preferable to cooked but it is best not to combine them with starchy foods and the like. The best time to eat raw fruit is at breakfast or between meals. Even unripe fruits may be eaten by children without injury provided the children are in good condition and their diet is correct in other respects.

Adolf Just, the eminent German Naturopath, says that the fact that children get diar-

rhea and skin trouble from eating unripe fruit, may indicate that unripe fruit, more than ripe fruit, has an invigorating and stimulating effect upon the body, and that diarrhea and skin trouble are likewise only curative crises, or purifying processes of the body.

A child's instinct should be the guide in the matter of taking either fruits or vegetables, ripe or unripe. Experience teaches that bad symptoms are not likely to continue after sugar extract and other unnatural foods are entirely eliminated from the system.

It is the fermenting property of the sugar extract in the diet, which causes the disturbance, if fruit seems to cause bowel trouble.

Unsweetened custards may be given children as a dessert. They may be sweetened with honey but they are too rich to be given habitually at meals. A sweetened dessert of any kind tempts an otherwise satisfied appetite further, and as a result, the child loses its instinct to cease eating the moment its appetite is satisfied. Besides, all articles of diet made of a combination of fine white flour, fats and artificial sugar are lacking in mineral food and in natural waste material. They render the

blood thick and viscous and clog the pores of the skin, causing pimples, blackheads and various skin ailments.

Many comparatively wholesome desserts may be made by using honey, dates, black figs, or seedless dark raisins and the like, sparingly, as sweetening.

Dr. J. H. Kellogg, head of the sanitarium at Battle Creek, Mich., has recommended honey as the best form of sweet. It contains some lime and has a slightly laxative effect, whereas, artificial sugar causes lime starvation and is very constipating.

Honey can be used to advantage in flavoring ice creams and desserts made with Irish moss. It combines particularly well with oranges, lemons, apples, peaches and dried fruits.

When honey is substituted in a recipe, less milk is required on account of the water in honey. One cup of honey is as sweetening as two or three cups of sirup. Baked foods keep moist longer when prepared with honey and never become soggy. Honey icing is the best for fruit cakes, which are to be kept for a long time. Honey should be heated in a double-boiler in water not much hotter than the hand can tolerate if immersed therein. Too great

heat darkens honey and mars its flavor. Hence a moderate oven is necessary when honey is a part of the recipe. Honey should not be kept in a refrigerator but in a dry, warm place.

PUDDINGS WITH HONEY OR DRIED FRUITS

1. *Apple Honey Pudding*—1½ cups bread crumbs; 2 medium sized apples; 2 eggs; ¾ cup water; ⅓ cup honey. Beat the eggs and chop the apples fine. Mix and add water. Bake until firm in the center, about twenty minutes. Keep covered until almost done. Turn out on plate and serve with fruit sauce, or whipped cream, sweetened slightly with warmed honey. Recipe for 4 persons.

2. *East Indian Pudding*—3 cups fine stale bread crumbs; 2 cups cold water; 1 tablespoon butter; ½ teaspoon salt, if especially desired; 5 eggs: 4 tablespoons honey; ½ cup raisins. Soak the bread crumbs in the water five minutes. Drain off the water and press the crumbs until they are almost dry. Mix thoroughly with the butter, salt, yolks of the eggs, honey and raisins. Add the beaten whites of the eggs flavored with lemon juice if desired. Bake in an earthenware dish for twenty-five minutes.

3. *Brown Betty Pudding*—4 cups raw apples cut fine; 2 cups bread crumbs; ½ cup honey; ½ cup hot water; 2 teaspoons butter or cream. Put a layer of the apple in a well-buttered pudding-dish; then a layer of crumbs. Mix the honey and the hot water; pour a part of it over the crumbs and a few dots of butter or thick cream. Add another layer of apple, and so on until the dish is full, with crumbs on top. Cover, and bake forty five minutes. Eat with sauce consisting of ½ honey and ½ cream.

4. *Peach Pudding*—Peaches sliced fine; ¼ cup honey; butter; 1 teaspoon salt; 2 eggs; ½ cup water; 3 or 4 slices bread, crumbed; 1 cup rice. The rice should be cooked for several hours previously. Beat into this the yolks of the eggs. In the bottom of the pan place a layer of crumbs with dots of butter here and there; then a layer of peaches, with honey on top. The third layer is a mixture of rice, egg and salt. The fourth and fifth layers are a repetition of the first and second. Add water and bake in a moderate oven. Cover with meringue.

5. *Indian Meal Pudding*—4 cups sweet milk; 1 cup cornmeal; 4 tablespoons honey;

½ cup raisins; butter size of egg; ½ teaspoon salt; 1 egg. Scald the milk and add the meal. Remove from stove and add the other ingredients. Bake two hours, stirring it up every half hour until done. Serve with cream or fruit sauce.

6. *Honey Rice Pudding I.*—⅔ cup rice; ½ cup honey; 1 egg; 1½ cups milk; ½ cup raisins; pinch salt. Clean and boil the rice in salted water (makes 2 cups boiled). Mix all the ingredients in the order given. Put into a buttered baking dish, and bake in a moderate oven until thick and brown. Serve cold.

7. *Honey Rice Pudding II.*—3 cups milk; ½ cup rice; 4 tablespoons honey; ½ teaspoon salt, if especially desired; 1 tablespoon lemon juice. Carefully wash the rice, stir it into the milk in a deep baking dish and add the other ingredients. Bake in a moderate oven two hours. Stir frequently during the first hour and a half of baking. Serve cold with fruit sauce.

8. *Rice Pudding III.*—Soak 4½ tablespoons rice in 1 pint of milk over night; boil in double-boiler for three-fourths of an hour, then add 4 eggs in 1 quart of milk and 2 cups of washed and cooked seedless raisins, flavor

to taste. Bake in moderate oven for one hour. Vanilla bean, grated lemon rind, honey, etc., are preferable to any manufactured flavoring extracts, which are often made with dangerous adulterations.

9. *Crumb Pudding* — Yolks of 8 eggs; ½ pound dates cut fine; ½ pound walnuts; 4 tablespoons whole wheat bread crumbs. Add beaten whites of eggs and bake in a slow oven about fifteen minutes in tins. Eat with whipped cream or honey, if desired.

10. *Floating Island (Custard)* — 1 quart milk; 1 comb honey; 7 eggs; 1 cocoanut. Place the milk in the inner vessel of a double-boiler. Heat the honey in a sauce-pan, cool and remove the wax. Add the honey to the milk and stir well. Warm the milk in double-boiler and add beaten yolks of 7 eggs. Cook until slightly thick, making a thin custard. Pour this custard into serving dish. Beat whites of eggs until very stiff. Have boiling water ready. Place the beaten whites in large tablespoonfuls on the boiling water and turn them over, making little islands. Place islands on the custard. Add grated cocoanut into which the cocoanut milk has been well stirred. Serve cold.

11. *Cornmeal and Fig Pudding* — 1 cup cornmeal; 1 cup honey; 6 cups milk (or 4 of milk and 2 of cream); 1 cup finely chopped black, unsulphured figs; 2 eggs; 1 teaspoon salt. Cook the cornmeal with 4 cups of the milk, add the honey, figs, and salt. When the mixture is cool, add the eggs well beaten. Pour into a buttered pudding dish and bake in a moderate oven for three hours or more. When partly cooked add the remainder of the milk without stirring the pudding. This serves eight or ten people.

PASTRY WITH HONEY OR DRIED FRUITS

1. *Lemon Pie*—3 eggs; ½ cup honey; 1 tablespoon flour; ½ lemon; 1 teaspoon melted butter; 1¼ cups rich milk; lemon juice. Combine thoroughly the yolks of the 3 eggs beaten light, the honey, flour, the juice, pulp, and grated rind of half a lemon, and the butter. Mix thoroughly in the order given and add the milk; pour into a pie-plate lined with a good crust, pricked to prevent air blisters. Bake until set. Cover with a meringue of the whites, beaten with 3 tablespoons honey and a few drops of lemon juice, and brown lightly.

Many prefer to bake the crust separately

and also to cook the filling in a double-boiler before putting it in the shell.

2. *Honey Tarts*—Make pie crust using home made nut-butter, and whole oat flour; cut out with tart cutter or use rounds of crust with rings of the pastry around the edges. Bake light brown and fill the center just before using; sprinkle with nuts or whipped cream. Filling: 1 cup honey; ½ cup butter; 1 egg; lemon juice. Beat honey and butter together, add egg and beat again. Flour, and fill tarts. Dried fruits and naturally sweet, cooked fruits may be substituted for such filling.

CAKE WITH HONEY

1. *Layer Cake*—⅔ cup butter; 1 cup honey; 6 eggs; ½ cup milk. Cream the honey and butter together, then add the yolks of eggs and milk. Then add 3 cups whole wheat flour. Fold in whites of eggs, beaten stiff. Bake in jelly tins. When the cakes are hot spread with the following honey filling.

2. *Filling for Layer Cake*—1 tablespoon of lemon juice; 2 heaping tablespoons of granulated honey. Stir to a smooth cream. When cake is done, lay on a plate, hot. Spread with the honey while hot.

3. *Honey Icing*—4 tablespoons honey; white 1 egg; cocoanut or lemon flavor. Cook the honey until a ball is formed when dropped into cold water. Pour into the beaten white of the egg and whip until cool. Flavor with cocoanut, or lemon, chopped dates, figs or other fruits.

FROZEN DESSERTS WITH HONEY OR FRUITS

1. *Honey Mousse*—2 cups whipped cream; 1 cup honey; 4 eggs. Beat the yolks of the eggs well and then beat the honey in, gradually. Heat slowly until thick, stirring constantly. Remove and cool, and then add the whites of the eggs that have been whipped to a stiff froth. Then add the whipped cream and blend all together. Pack in large quantities of ice and salt, and freeze without stirring.

2. *Ice Cream*—4 cups thin cream; ¾ cup honey. Flavor with fresh fruits. Mix and freeze. This is very good with sweet fruit and no honey.

3. *New York Ice Cream*—1 quart rich milk; 4 eggs; ¾ cup honey. Heat the milk in a double-boiler, and add the eggs beaten and mixed with the slightly warmed honey. Stir constantly until it thickens. Take off and beat until cold; strain, flavor and freeze.

MISCELLANEOUS RECIPES WITH HONEY

Nut Bread—3 cups whole grain flour; 2 tablespoons butter; ⅓ cup warm honey; 1 cake of compressed yeast; ¾ cup lukewarm scalded milk; white 1 egg, beaten; 1 cup chopped nuts; 2 teaspoons salt. After dissolving the cake of yeast in the warm milk, stir in a tablespoon of honey and 1½ cups flour, beating the whole thoroughly. Then set in a warm place to rise. When light, add the remainder of the honey and flour and the rest of the ingredients. Knead well and place in a greased bowl to rise until double in bulk. Then make into a loaf, and, when light enough, bake in a slow oven.

Honey Cereal Coffee—1 egg; 2 quarts wheat bran; 1 cup honey. Beat the egg, add the honey, and lastly the bran. Stir until well blended. Put in oven and brown to dark brown, stirring frequently, being careful the oven is not too hot. To prepare the coffee, allow 1 heaping teaspoon to 1 cup hot water and boil for at least ten minutes.

(17) CANDY

There is no candy, made of any kind of artificial sugar extract, that is wholesome. This

is true regardless of whether it be cane, beet, malt sugar extract, or the usual brown sugar extract, etc., however pure the ingredients may seem.

Dr. Harvey W. Wiley says that various injurious substances are used in the refining of sugar but that in the complete refining process the aim is to leave no trace of these substances.

Candy may be made of honey produced by bees which have not been fed on artificial syrups, etc., thereby avoiding many of the objections to ordinary candy. The free use of such candy, however, even if it does not seem to injure a certain child perceptibly, has its injurious effects. It deprives that child of a normal appetite for naturally sweet fruits, vegetables and grains.

The child who habitually eats the ordinary candy made of artificial sugar extract, glucose or the like, will suffer more or less from lime and mineral-starvation. Time will show the lasting effect in producing soft teeth which decay easily, if the child does not also suffer from tuberculosis of the bones and other more deep-seated defects and ailments. Candy eating children often have a morbid appetite for earth, plaster, calcimine, chalk and other min-

eral and bulky substances in their instinctive effort to balance the rich extracts with the right amount of waste and bone-forming material supplied by Nature in wholesome sugar cane, beets, corn and other grains, and the like. Many know that such morbid appetites are often an indication of worms. The worms are bred in the filthy fermentation present in the intestines as a frequent result of the taking of such artificial sugar extracts.

CANDY MADE WITH HONEY*

1. *Taffy*—Boil some honey until it hardens when dropped into cold water. A pound needs about twenty minutes' boiling and stirring. Great caution is necessary to prevent the honey from burning. It should then be pulled until it is white.

2. *Caramels*—Take 1 pint of honey; ½ pound of grated cocoanut; ¾ pound pecan nuts; 2 pounds of sweet almonds. Cut the nuts fine and boil them with other ingredients until thick. Cool and roll out. Cut in squares and dry in the oven. Flavor, if desired, with natural lemon, vanilla bean or a stick of cinnamon, which of course must be removed before rolling.

*Less objectionable than ordinary candy.

3. *Popcorn Balls*—Take 1 pint extracted honey; put it into an aluminum frying pan and boil until very thick; then stir in freshly popped corn and when cold form into balls.

All sorts of nut candies may be made in a similar way. Fruit candy or fruit preserves may be made as follows:

4. *Peach Candy*—Cut in half, nice large peaches and allow them to stand for about eight hours. Pour on 1 pound of honey to every 1½ pounds of fruit.—(See note under foregoing heading.)

X.

MISCELLANEOUS

TEMPERATURE

What is the natural temperature of an infant?

The range of temperature for infants is greater than that of adults. A rectal temperature of ninety-seven and five tenths degrees Fahrenheit (97.5° F.) or of one hundred and five tenths degrees Fahrenheit (100.5° F.) in an infant, is not serious unless it persists. The rectal temperature usually varies from ninety-eight degrees Fahrenheit (98° F.) to ninety-nine and five tenths degrees Fahrenheit (99.5° F.)

BOWELS

How many daily bowel movements should a baby have during the first month or so?

The average child has about three a day for the first ten days and after that one or two each day.

What is the usual appearance of the movements of a milk-fed baby?

They are soft and yellow, of the consistency of porridge, and free from lumps.

What is the cause of dark-colored bowel movements?

The use of meat juices, prepared foods and drugs, also serious sicknesses. Artificial sugar extract induces green slimy stools.

How early may a child be trained to have regular movements?

This varies greatly according to the condition of the child and the time given to the training of the child. As soon as the child can sit at least, an effort should be made to establish regular habits. The best times for the child to be placed on the nursery chair are after the morning and afternoon feedings and as nearly as possible at the same hour. This is very good for the child and is also a great saving of trouble and work.

Is it natural for an infant to be constipated?

No. Constipation is a symptom of indigestion. Its value is, that it indicates that the

child is not getting the right sort of food. Merely to overcome the symptom by medicine does not overcome the real difficulty. The proportion of foods which are laxative in effect and at the same time nourishing should be increased in the diet. Such foods are most fruits, especially if taken raw and plain, milk containing a higher percentage of cream, and entire grains, such as whole wheat, oatmeal, etc., eaten dry.

If a child has one good bowel movement a day, one cannot say that it is constipated. However, such a condition is not ideal. There should be at least two bowel movements a day.

What are the causes of diarrhea?

One important cause in breast-fed babies is the use of artificial sugar in the mother's diet. In the case of bottle-fed children, diarrhea is very often caused by the use of sugar-of-milk. To allay such symptoms by boiling the milk or by adding a constipating food such as barley flour is merely playing with symptoms. The danger of such a course is that thereby poisons, which the system is seeking to eliminate, are forcibly locked in the system, which sets about seeking to eliminate the poisons through some

other organ of elimination such as the lungs, skin, kidneys, mucous membrane, etc., inducing such diseases as pneumonia, eczema, kidney trouble, etc. Some physicians who recognize that diarrhea is a curative process recommend the use of a cathartic. The more natural way however, is to remove the cause by correct diet and let Nature effect the cure more gradually and more perfectly.

SLEEP

Should a child sleep alone?

Yes. This is always preferable except in the case of very young infants, when it is often advisable to allow them to have the natural mother warmth.

Great care should be exercised, to obviate the danger of smothering the infant. Another objection to an infant's continuing to sleep with the mother longer than necessary, is the temptation to frequent nursing at night which is bad for both child and mother.

Older children should always sleep in separate beds, if possible. There is less danger of contagion and of contracting bad habits.

How should an infant's bed be made?

A hair mattress is very good. The pillow

should be very thin. In any event, neither pillow nor mattress should be made of soft feathers.

The infant should be put to sleep in various positions and should even be allowed to sleep on its stomach if it wishes. One very natural position which many young children assume and which has the advantage of keeping the shoulders straight is to lie prone with one arm stretched above the head and the leg opposite drawn up. In this position the internal organs assume their most natural position. Digestion goes on more easily and there is less likelihood of dreaming.

Sleeping out-of-doors is usually more restful and healthful than sleeping indoors, unless there are serious objections such as dust, bad odors or noise.

Should a child be put to sleep right after eating?

No. Food is naturally stimulating and children enjoy activity immediately after eating. Very often such activity, if not excessive, helps digestion and results in the evacuation of the bowels. The result is, that when the child is put to sleep later, it enjoys the best, undis-

turbed sleep and does not require as much sleep. The practice is very usual to put children to sleep at once after eating, because people have noticed that they go to sleep quickly. This is true, because the blood being drawn to the stomach, it is diverted from the brain. However, the presence of food in the stomach results in disturbed sleep and the necessity of sleeping longer.

How much sleep is natural for a young child?

A very young baby sleeps most of the time. Children gradually sleep less and less until at six months they sleep about two thirds of the time. Later they take two long daily naps, one in the morning and one in the afternoon. The need of the morning nap comes constantly at a later hour until they require but one nap a day, usually in the afternoon. This nap should be continued until at least three years of age and a few years longer, if possible.

Do children ever sleep too much?

Healthy children never sleep too much, unless such a condition is caused by soothing syrups, drugs, or fatigue-producing foods, like too much honey, or any artificial sugar

extracts. Too much sleep may be an indication of disease, sometimes a disease of the brain.

At what age does the average infant go all night without feeding?

At about five or six months a healthy child should go without food during an eight or nine hour interval at night. Many children at this age can go without food for twelve hours at night. This is, of course, preferable. At one and one-half years, the average child can go from 6 P.M. to 6 A.M. without any food.

How should a baby be put to sleep?

One should first be satisfied that the child is neither hungry nor thirsty. The child should then be made comfortable in its bed, the room should be darkened and quiet. The ventilation should be good. If the room has been occupied it is well to air it thoroughly. Always leave at least one window open, according to the weather. The child should be required to fall asleep by itself.

Rocking is unnecessary, except perhaps, in the case of illness. One should avoid beginning such a habit, since it is hard to break and is bad for both mother and child. The use of

contrivances for putting children to sleep, such as the "pacifier," etc., is very objectionable. Some claim that the use of the "pacifier" causes enlarged adenoids, whereas it is more likely that the demand for the "pacifier," and the enlarged adenoids are both due to inflammation and morbid thirst, which are a frequent result of artificial sugar extracts or other artificial extracts in the diet.

What are some of the main causes of disturbed sleep?

Habitual indigestion caused by the wrong food or drink, too much food, too little food, frequent feeding at night, nervousness, undue excitement before bedtime, fear caused by stories and pictures, lack of fresh air, too much or too little covering, enlarged tonsils or adenoids, or illnesses such as anemia, scurvy, syphilis and other deep-seated defects such as spinal trouble, etc.

One should avoid picking a child up at night or lighting the nursery, unless it is absolutely necessary. A healthy child may very easily be taught to regard any effort to turn night into day as useless and to respect the hours of darkness as the sleeping hours for the entire family.

EXERCISE

How should an infant be exercised?

A very young infant's exercise consists in the natural crying, kicking, moving of its arms, etc. For this reason clothing such as pinning blankets, tight bands, etc., which interfere with this activity are objectionable. It is very strengthening to a child to be allowed to lie without any clothing except the belly-band, or with the addition of stockings and diaper if preferred, in a warm room for a few minutes at a time. The time may gradually be increased until it amounts to about a half hour at a time, two or three times a day. A nursery fence in which the child lies on a soft quilt covered with a clean sheet, is very good when the infant is a little older. This enables the child to learn to creep early, and avoids the danger of older children injuring it by stepping on it.

Any unnatural overtraining of the little muscles is undesirable at an early age, as it is at any age. The ideal towards which all physical activity should aim is not the performance of athletic feats but the production of a beautiful, symmetrical body, every muscle of which is under control.

LIFTING CHILDREN

How should a young baby be lifted?

One hand of the nurse should pass beneath the body up to the head and the other hand should draw the clothing together below the feet, thereby obviating any injury to the spine, or undue pressure upon the chest or abdomen.

Older children should be lifted under the arms and never by the wrists or hands, so as to avoid injury to the elbow, shoulder, joints or wrists.

CRYING

Of what use is crying?

The first cry of the newly born baby is due to the air entering the lungs. Later, the child derives a certain amount of exercise from crying, which is healthful. One should distinguish between the cry which is natural and that which is abnormal. Some of the main causes of the crying, which is natural, are hunger, temper, indigestion, illness and over indulgence. Such crying is usually loud and strong.

Abnormal crying is seldom strong, and sometimes piercing, moaning or whimpering.

Does crying ever cause rupture?

This idea seems to prevail, especially in rural districts. Some claim that the abdominal band is a very necessary safeguard against rupture, and some claim that boys are more apt to become ruptured than girls. Aside from a direct and violent injury, bad air, improper food, such as artificial sugar and, in fact, anything which undermines the tissues is usually the real cause of rupture.

KISSING

What are the objections to kissing infants?

The danger of contracting diseases such as diphtheria, tuberculosis, and other serious diseases. An infant should never be kissed upon the mouth, even by its own mother, not to mention children and nurses. Many kiss children on the cheek or forehead, but the less children are kissed the better.

This does not prevent caressing children and thereby showing affection and cultivating affection in return.

CLOTHING

What are the most important things to be considered in the dressing of infants?

It is generally deemed advisable that the

abdomen be covered by a belly-band made partly of wool. If the belly-band is too broad and too tight, it may interfere not only with breathing, but even with digestion, sometimes causing vomiting soon after nursing. The objection to clothing which is too loose, is that it is uncomfortable. The "Gertrude" clothing which fastens on the shoulders, and which fits snug but not too tight has many advantages.

Clothing should be of such quality as to secure skin ventilation, as well as freedom from pressure. This should be consistent with moderate warmth.

How long does the infant require the belly-band?

Usually about four months. It may then be replaced by the usual, knitted band to which the diapers are fastened. Some advise the use of such knitted bands until the third or fourth year to help prevent bowel disturbances. Over these there may be used another band made of soft muslin with elastics to which diapers are fastened. This holds the diaper better for walking, and saves the knitted bands from tearing.

Do little children need as heavy flannels as older people?

Not as a rule. Their activity and heat producing power is usually greater than that of adults, except in the case of very young infants. They require, however, on account of their thinner underwear, special protection against the cold when they go out-of-doors. The use of light sweaters under little coats, leggings and warm footwear is advisable.

How should children be dressed in summer?

In the case of very young infants who are still wearing the woolen knitted bands, their undergarments should be of the thinnest wool. Mornings and evenings they should be protected against changes in the temperature by the addition of outside garments, such as lightweight porous knit sweaters or jackets.

How should an infant be held during dressing and undressing?

It should lie upon the mother's or nurse's lap and the clothing should be drawn over the child's feet and not over the head. The head should not be allowed to hang far over the lap, especially with the neck bent backwards.

TOYS

What toys should be avoided?

Sharp pointed toys, small toys such as buttons, beads, etc., which are detached and might be swallowed, or put into the ear or nose; painted toys, toys covered with wool or hair.

What toys are advisable?

Some children have too many indoor toys. One should seek to provide rather methods of amusement to entice them out-of-doors. Such are the sand-pile, the swing, wagons, bicycles, etc., teeters, trapeze rings to swing on, toboggans, etc. Children may be taught many things by means of toys, among which are construction, analysis, and habits of neatness and attention.

Each child should have its own chest or shelf and should be encouraged to keep such a place in order and to play with one plaything at a time, putting it away before the next is taken.

FOREIGN OBJECTS

What treatment is necessary in case a child has swallowed a solid object?

The throat should be examined quickly with

the finger and the object removed if possible. If the object passes the throat, it usually reaches the stomach easily. Emetics and cathartics sometimes prove dangerous at such a time, especially if the object is pointed, like a needle or pin. Constipating food is the best, since such food increases the likelihood of the needle or pin becoming completely covered and thereby passing through without injury. Of course, in the case of a very young infant, nothing can be done except to give it its usual food and let Nature take its course. The presence of an unnatural object in the system is likely to cause temperature and produce constipation in a nursing infant. It usually takes four to nine days for such object to pass from the mouth, through the intestines and out.

What should be done if a child gets an object in the ear?

If it cannot be easily taken out with the fingers, a doctor should be called at once, lest any unskilled treatment might aggravate the difficulty.

What should be done if the child gets an object in the nose?

If it cannot be removed by ordinary means

such as blowing the nose with the empty nostril closed, a doctor should be called, lest it only be pushed further up the nostril in one's effort to remove it.

NERVOUSNESS

What are some of the causes of undue nervousness in infants and children, and how may such causes be prevented?

Over-feeding and under-feeding are two important causes for nervousness. Improper diet on the part of the nursing mother is a frequent cause. If the mother is taking a great deal of artificial sugar, the result is more or less inflammation in both her system and that of the baby, causing undue thirst and restlessness. Nervousness is sometimes due to inherited tendency. All infants do best under quiet and peaceful surroundings. The child, who is nervous from inherited tendency, needs special protection in this matter. To use any artificial means such as syrups or "pacifiers," etc., is, of course, grossly ignorant.

What is the best time to play with very young infants?

In the early morning and never when they

are tired. The safest rule is, the less they are played with the better.

BAD HABITS

What is the cause of the sucking habit?

Undue thirst is one great cause, due to the use of too much animal food, artificial products such as artificial sugar, vinegar, and the like and high seasoning on the part of the nursing mother. In the case of bottle-fed babies, it is very often due to the artificially prepared foods. The addition of sugar-of-milk, cane sugar extract, brown sugar extract, malt-sugar preparations, and other artificially prepared sweetenings causes great thirst. Adults need only to try the effect on themselves, to notice the result. Insufficient food is another cause.

Some nurses make the mistake to start the thumb-sucking habit by placing the infant's thumb or finger in its mouth, hoping thereby to produce a more contented baby.

What are some of the harmful results?

Indigestion, mouth infection, wasting of the saliva, and deformed mouth and fingers. Some claim that enlarged adenoids are sometimes the result of thumb-sucking. It is more likely

that both enlarged adenoids and thumb-sucking are due to the same cause; that is, the above mentioned improper feeding.

To overcome such a habit the child should be watched while falling asleep to prevent it from sucking any part of the hand or bedding.

What are some of the causes of dirt-eating, etc.?

The main cause for this habit is mineral starvation, either from the excessive taking of artificial foods, such as sugar extract, or from the lack of mineral containing foods, such as whole wheat, whole rye, etc. Such a habit together with nail-biting is no doubt aggravated by general nervousness, but the nervousness itself is usually initially caused by improper diet.

What are some of the causes of bed-wetting?

If a child continues to wet the bed after the age of three or four years there is usually some unnatural cause. Some control such a habit by allowing little or no fluids after four in the afternoon.

The excessive dampness of a locality may greatly increase a child's tendency to bed-

wetting. The frequent use of hot soups and high seasoning together with the use of unnatural foods and drinks causes an irritation in the bladder which sometimes leads to the continuation of this habit. Some defect in the genital organs such as adhesions, etc., is sometimes the cause, when all other conditions are correct. In such a case a doctor should be consulted.

What is masturbation and how should it be treated?

It is sexual excitement due to any unnatural friction of the genital organs. Parents should watch their children closely so as to prevent the formation of any such habit which may sometimes seem merely a little odd motion and so may escape detection. It is generally regarded as the most harmful of all bad habits of children. Punishments in such cases are said not to be as helpful as rewards. One should seek rather to eliminate the first cause which may be some unnatural irritation due to the use of pepper, other high seasoning, artificial sugar and the like. A physician should examine the genital organs to see if there is a more deep-seated cause.

In regard to the effect of diet on morality in general, Addison wrote, in *The Spectator:*

> "I must confess, I am apt to impute the dishonors that sometimes happen in great families, to the inflaming kind of diet which is so much now in fashion. Many dishes can excite desire without giving strength, and heat the body without nourishing it; as physicians observe, that the poorest and most dispirited blood is most subject to fevers. I look upon a French ragout to be as pernicious to the stomach as a glass of spirits; and when I have seen a young lady swallow all the instigations of high soups, seasoned sauces and forced meats, I have wondered at the despair or tedious sighing of her lovers.
>
> "The rule among these false Delicates are, to be as contradictory as they can be to Nature.
>
> "Without expediting the return of hunger, they eat for an appetite, and prepare dishes, not to allay, but to excite it.
>
> "They admit of nothing at their tables in its natural form, or without some disguise.
>
> "They are to eat everything before

it comes in season, and to leave it off as soon as it is good to be eaten.

"They are not to approve of anything that is agreeable to the ordinary palate."

CONVULSIONS

What are some of the causes of convulsions?

Dr. R. T. Trall gives:

"as especially prominent among the special causes . . . . concentrated foods and confections—bakers' bread, sweet cakes, candies, etc.,—and the paregoric and purgatives which are given to silence the pain and remove the constipation which they produce."

He recommends for treatment an

"abundance of pure air and plenty of cool water. . . . . As the bowels are usually clogged with ill-digested matter or irritated by acrimonious secretions, tepid injections should not be omitted. After the spasms are overcome, the prophylactics to employ in intervals are brown home-made bread and milk, potatoes, squash, pumpkins, apples, etc., and a daily bath or universal wash down."

Such advice is more valuable than that which aims only at overcoming the symptoms. The popular treatment for convulsions is the use of plenty of hot water, often with the addition of about half a teacupful of powdered mustard for the bath. A good physician should, of course, be immediately consulted.

COLIC

What is the main cause and the best treatment for colic?

The main cause for infant colic in the case of nursing babies is the use, not only of vinegar but of artificial sugar, by the mother. The use of artificial sugar and the like in the modification of cow's milk or in the preparation of patent foods is a frequent cause, in the case of bottle-fed babies.

The usual treatment deals with the symptoms alone, recommending hot water bag, hot flannel to the abdomen, warm drinks, bowel injections, etc. The best treatment, of course, is to remove the cause. Infants tortured by colic and wasting away from the accompanying indigestion, will be immediately helped by the mother's eliminating from her diet all

foods containing artificial sugar as well as vinegar. In such cases, other conditions being correct, the infant very soon begins to gain, the flesh becomes firm and the cheeks rosy. A return to improper diet will at once produce colic with the usual signs of fermentation in stomach and bowels, such as gas, and a generally green, slimy condition of the bowel movements, accompanied by the usual signs of colic pains such as drawing up of the feet, hard crying, etc.

CROUP

What are the symptoms of spasmodic croup?

Before the attack, there is usually some warning. Children often cry on awakening, drawing the breath in, seemingly with pain, and with a curious little hollow sound. If the cause is not removed, this condition continues until some night there is a regular attack of croup with the alarming barking cough accompanied by more or less difficult breathing. The most dangerous form of croup is the membranous croup which is sometimes called diphtheritic croup. This requires skillful treatment by a competent physician.

What are the causes and cure for spasmodic croup?

All statements which I have been able to find on this subject treat merely with the elimination of the symptoms. The only real cure is the removal of the cause which is a catarrhal or inflammatory affection localized in the larynx. This catarrhal trouble is caused by an acid condition in the system. Among the most frequent causes of this acid condition are starch indigestion due to insufficiently cooked starchy foods such as grains and potatoes, or fried starchy foods, or the use of artificial products such as extracts. Indigestion from the excitement of travel will sometimes produce this acidity. Sometimes the attack of croup will not occur until about two days after the acid indigestion. There will be evidences of indigestion, such as sour breath, sour bowel movements, and sour smelling perspiration. Any sudden chilling of the surface of the skin will throw the task of elimination in upon the mucous membrane. The croupy child is the one whose organism will habitually seek to eliminate this acidity by catarrh of the larynx. This explains why some children are subject to croup and others to bowel disturbances from the same first cause.

OTHER DISEASES

(NOTE: The following is, in the main, a compilation based on the authority of several well-known physicians among those named in the index at the end of this book. The diseases discussed under this heading, in most cases, require diagnosis by a competent physician, and his advice as to treatment.)

SCURVY

What are some of the symptoms of scurvy?

Pains in the limbs; sometimes hemorrhage from the mouth, nostrils, or bowels; purple circular spots of different sizes scattered over the arms, trunk and thighs; swelling of the ankles and knees; and loss of appetite and weight; and also sleeplessness. It is sometimes mistaken for rheumatism at the beginning.

What are the special causes?

Among the special causes are stale food, such as salted food, too much animal food, a lack of fresh food such as fresh cow's milk for the bottle-fed infant, a lack of fresh fruits and vegetables, and also vitiated air.

What is the best treatment for scurvy?

One should of course, remove the cause at once, since if such a condition continues, it may result in scorbutic paralysis and even death. This disease requires a well balanced diet, particularly one containing plenty of natural, unseasoned, fresh food. An infant's diet should at once be changed from patent food to more natural foods. It should be given daily plenty of good ripe fruit.

Dr. R. T. Trall says:

> "Brown bread, wheaten grits, mealy potatoes, and good apples are the best anti-scorbutics known."

EARACHE

What are some of the symptoms of earache?

Earache usually comes on abruptly and disappears suddenly. The pain, however, while it lasts is likely to be prolonged and continuous, accompanied by a high scream. The child usually keeps putting the hand to the ear and shows signs of pain whenever it is handled.

What are some of the causes and the best treatment?

The causes are usually either the presence

of foreign bodies, rheumatism, neuralgia, or an inflammatory condition in the system.

Giving the patient plenty of fresh out-door air is the best immediate treatment. Earache usually indicates infection. One should seek to remove the cause. The cause may be bad milk or other bad food, or bad air, such as the air rising from a damp basement, or from low, poorly drained land. Air vitiated by sewer gas, decaying garbage, etc., will induce abscesses in the ear and elsewhere.

Since rich living or overeating delays or continues the difficulty, it is well to fast for a day or two. Fresh laxative fruit is a good food at such a time, if the bowels are not entirely free.

The application of heat to the ear is bad, since it tends to prolong the difficulty. One should seek rather to draw the bad blood away from such a delicate organ as the ear by tepid foot baths. Dr. R. T. Trall says: "A warm or vapor bath . . . . will often remove the trouble at once."

DISEASES OF THE EYE

Diseases of the eye in very young infants vary from very slight disturbances to the more

serious kinds, which if neglected result in blindness.

If pus appears in the eyes, they should be cleansed with sterile cotton, dipped in good boiled water which has been cooled. Some advocate the addition of boric acid to the water, about two teaspoonfuls to a quart. Many old nurses cleanse the eye, if it sticks together, by allowing some of the breast milk to spurt into the eye. The fact that it is sterile and at the same time slightly oily, no doubt, makes it a good lubricant for this purpose. If the trouble with the eyes is slight such mild treatment, together with a correct condition of the bowels will suffice. If the difficulty is severe, a good physician should be called immediately. Much has been written on blindness, stating that the use of nitrate of silver by physicians on the eyes at birth, has saved many eyes, and that the failure to use such a remedy has been the cause of much needless blindness.

CONTAGIOUS DISEASES

CHICKEN POX

Also Known as Swine Pox

What are the symptoms of chicken pox?

There is usually very little fever. About

twenty-four hours after the first symptoms of feverishness, there appears an eruption of small reddish pimples. This usually begins on the back and spreads over the scalp, face and the rest of the body. On the second day, the pimples become small vesicles like blisters which later form thin scabs without pus. The eruption usually disappears about the fifth day. Children are rarely very ill and suffer merely from the discomfort of the itching.

What is the treatment recommended?

Dr. R. T. Trall, recommends "a spare vegetable diet."

MUMPS

What are mumps?

> "Mumps consist of a painful unsuppurative swelling of one or both parotid glands; it is contagious, and often epidemic; it is often accompanied with the swelling of the testes in males and of the breasts in females."

What are the symptoms?

> "The tumor is at first movable but soon becomes diffused to a considerable extent; it increases until the

fourth day and often involves the maxillary glands in the inflammation. It is attended with but slight febrile disturbance and gradually declines after the fourth day."

What treatment is advised for mumps?

"Very little medication is required in ordinary cases. 'Abstemious diet' together with hydropathic treatment in case of fever and 'the full warm bath' followed by wet compresses to the part affected in case of swelling of the testes or breasts," constitute the treatment recommended by Dr. Trall.

WHOOPING COUGH

What are the symptoms of whooping cough?

A shrill repeated whoop, sometimes accompanied by watering of the eyes, redness of the face and followed by vomiting. It comes on with the usual symptoms of an ordinary catarrhal cold. At first the paroxysms recur several times during the day, becoming more violent towards evening and are the least so during the night. Later they return only in the morning and evening and toward the end in the evening only. It usually lasts from

four to six weeks. The habit of coughing sometimes continues considerably longer. The most characteristic symptom is the noisy inspiration accompanied by the whoop. It is usually regarded as due to direct contagion.

What is the treatment recommended?

Fresh air and simple diet.

MEASLES

What are some of the symptoms?

When a child is coming down with measles, he coughs, sneezes and has running from the nose. The eyes are red and watery. After these symptoms, sometimes very slight, have continued for about four days, the rash appears on the skin. Almost from the beginning of the attack, rash may be found inside of the cheeks where it looks like red spots with whitish centers. "It is believed the disease is given to others most frequently during the first four days and seldom after the fever has disappeared for a day."

The maximum period of quarantine is two weeks.

It is a crime for parents to purposely expose a child to measles. It is a dangerous disease in children under five years of age and a very dangerous disease to children under three.

How may contagion be prevented?

The room in which the patient is located should be thoroughly aired, as much as is possible and at the same time consistent with keeping the room dark and the patient warm. Several times a day, the patient should be especially covered, the windows opened and the room aired thoroughly.

All persons who come in contact with the patient should wash their hands and go out-of-doors for a few minutes before going to others. An apron is useful to cover the clothes while with the patient. All handkerchiefs, towels, etc., which have come in contact with the patient should be either burned or boiled. Dishes or cups should be washed in water so hot that one cannot hold the finger immersed therein, to which washing soda has been added —a tablespoon to every quart. The poison does not remain long in the sick room.

German measles is not the same disease as ordinary measles. It is characterized by a

very extensive eruption and few other symptoms. Children are rarely very ill with it.

SCARLET FEVER

How may scarlet fever be distinguished from measles?

There is no coughing, sneezing or catarrhal symptom. It is characterized by sore throat, a peculiar strawberry appearance of the tongue and by the greater extent and less defined form of the rash. Scarlet fever usually comes on abruptly, accompanied by vomiting and high fever. The rash appears on the second day as a bright scarlet blush on the face, neck and breast extending downward over the body and limbs. "On pressure the skin looks pale, but readily recovers its redness when the pressure is removed." In one or two days more, after the red flush is universal, it becomes partial, in large irregular patches which do not disappear on pressure. The skin actually feels rough to the touch. About the fifth day, the rash begins to decline and usually disappears entirely by the eighth day. The cuticle comes off from the body in the form of scurf and from the hands and feet in scales.

At this time the mucous membranes are more or less affected. "The eyelids, lips, edges of the tongue, nostrils, and palate exhibit a bright red color. The tonsils are enlarged and there is difficulty in swallowing. The fever disappears with the rash."

To what extent is scarlet fever contagious?

It is not as contagious as measles and yet is more easily carried by clothing or bedding from the sick room and by persons in contact with the case. The most contagious time is when the patient is the sickest, although it is slightly contagious from the first. Some claim that the most contagious time is during desquamation.

Scarlatina is just as contagious as malignant scarlet fever. Like diphtheria, however, a rather close exposure is necessary.

What is the treatment recommended?

Dr. R. T. Trall says: "The mild form requires very little treatment." The symptoms indicate a general effort to throw the poison out upon the surface, hence the treatment should aim to assist rather than to interfere with this effort. It is at this point that many

make the mistake to recommend a laxative or even an emetic. . . . If he employs either of them at this critical moment, he either suppresses this effort or produces a revulsion of the whole force of the disease to the internal mucous membrane, resulting, perhaps and probably, in inflammation, disorganization and death."

The high fever usually creates great thirst and the demand for such fruit as juicy oranges, and the sore throat prevents the swallowing of anything but the juice. Such food nourishes the patient sufficiently and at the same time brings about in time the natural evacuation of the bowels. In extreme cases of constipation, a free injection of warm water to clear the bowels as recommended by Dr. Trall may be necessary. Dr. Johnson, in relation to the diet of scarlet fever patients is criticised by Dr. Trall as recommending an unnatural treatment which is still followed by some physicians and nurses. He quotes Dr. Johnson as saying: "If there be appetite, farinaceous puddings should be given; if not, beef tea, mutton broth, gruel, barley water, etc. . . . should the eruption come out languidly no cold water should be allowed, but the mutton broth should

be given quite hot." In regard to such treatment Dr. Trall says: "Nothing can be more preposterous than forcing food, especially stimulating animal slops, into the stomach during a high fever when the digestive powers are utterly prostrated."

Great attention should be given to proper ventilation day and night in all children's diseases. The patient should be covered and the room aired thoroughly at least two or three times a day and there should be constant ventilation as much as is consistent with protection of the eyes and keeping the uniform warmth of the patient, so as to keep the eruption well out.

DIPHTHERIA

How does diphtheria begin?

There is sore throat, swelling of the glands of the neck, with white spots on the tonsils, and sometimes a discharge from the nose which is at times bloody. The attack may come on suddenly, but it generally begins gradually with a sore throat.

If there is a suspicion of any virulent infection like diphtheria, a competent physician cannot be called too soon.

TREATMENT DURING FIRST SYMPTOMS OF ILLNESS

How should a child be treated during the first symptoms of illness?

The child should be put to bed, if possible, in a room to which the other children in the house have no access. It should be the most sanitary room in the house, if possible, having special care to see that the basement, even when it is many stories below, is dry and in a sanitary condition. One should see that the plumbing in the house is in perfect condition and that there is nothing about the premises which may be the cause of the disease. It is well to take the temperature if the child seems feverish, and if there are any apparently serious disturbing symptoms to send at once for a doctor, in whom one has confidence, to diagnose the case. In the case of a nursing infant, the mother should be most careful of her diet and drink copiously of water. In the case of a bottle-fed baby the modified milk should be diluted. In the case of an older child only water and fruit juices, if craved, should be given, and never solid food in fever. The prevalent habit of giving cathartics at once may prove dangerous in some illnesses. The orange

juice, or the like, which the patient frequently craves will usually prove laxative enough if given freely.

VACCINATION

Dr. Joseph A. Meek writes:

"About vaccination ,it does look like 'an unnatural procedure': but it was presented to Jenner not as an artificial but as a natural process. He thought of imitating it, and extending its usefulness beyond the domain of the dairy. Unclean virus used in an unclean way and especially humanized virus made arguments against it. Now only pure vacine virus is recognized and no mishaps occur when it is applied aseptically."

Dr. Eugene L. Fisk, Medical Director of the "Life Extension Institute," writes:

"Vaccination is regarded by the leading medical men of the world as the necessary safeguard for troops and population."

On the other hand Dr. Franz Schoenenberger, in his book, "The Art of Living and the Art of Healing," writes:

"Does not the vaccinating of a person against the contracting of one disease thereby decrease his resistance to another?"

Natural Methods vs. Artificial Methods in Cure of Diseases

Professor Alonzo Clark, M.D., of the New York College of Physicians and Surgeons, says: "All of our curative agents are poisonous, and as a consequence every dose diminishes the patient's vitality."

Professor Joseph M. Smith, M.D., of the same school, says: "All medicines, which enter the circulation, poison the blood in the same manner as do the poisons that produce disease."

Belief in heredity in diseases was once the great stumbling block in the way of the cure of many diseases. Contagion and infection, although they should be recognized, together with inherited tendencies and habits, as a factor, offer convenient escape from the eternal "why," which would solve the cause of disease. As long as we believe that it is normal to have morbid symptoms with natural functions, like nausea in pregnancy, and disorders like the colic of the nursing baby, and as long as we attribute most of the illness and diseases of childhood to the weather, colds, con-

tagion, or infection, we shall not progress very rapidly into the field of causes or get really satisfactory results. Try blaming yourself for your illness or your child's susceptibility to whatever disease is most prevalent. Persist in seeking the cause and it will be found and with it further emancipation.

The old Romans believed that disease was an unbalancing, in the system, of the natural proportions of acids and alkalies. It is a strange fact that truths in regard to health, one of the most important things in life, have been discovered and forgotten again and again in the history of the world, whereas, records have been more carefully kept of laws and other things of far less importance to man's welfare. A so-called acid condition is the accompaniment, if not the cause, of many modern diseases, such as diabetes, rheumatism, tuberculosis, etc. Catarrh is cured in Bad Ems, Germany, by the drinking of alkaline waters, and yet in catarrhal affections of the larynx, like croup, all of the medical discussions, which I have been able to find, tell us merely how to allay sypmtoms. It has been my experience through ten years of careful investigation that children who are subject to croup have diffi-

McCann in an article entitled "The War's Greatest Diet Lesson," appearing in "Physical Culture" for July 1918.

It appears from this article that the sailors of the "Kronprinz Wilhelm," a German raider, lived for two hundred and fifty days on a "typically American diet," obtained by raiding French and British merchantmen, which yielded "enormous quantities of fresh beef, white flour, sugar, oleomargarine, potatoes, cheese, condensed milk, white crackers, sweet biscuit, coffee and tea with considerable quantities of canned vegetables, ham, bacon, beans, peas, beer, wine and spirits. The raids never resulted in any large quantity of fresh vegetables or fruits." Whatever fresh fruits and vegetables were gotten were reserved for the officers' table.

At the end of two hundred and fifty days a disease of "mysterious origin" appeared among the crew. After all medical treatment had failed, and while the ship was lying at anchor near Newport News, McCann was permitted to suggest to the ship's surgeon a corrective dietetic treatment which resulted in a wonderful cure. The diet suggested, contained an excess of base-forming elements and a defici-

ency of acid-forming elements to counteract the previous diet, which consisted of large quantities of foods in which there was a predominance of elements of an acid-forming tendency.

Most instructive food tables are given by Dr. Henry C. Sherman in "Food Products," showing which of a large number of foods are of an acid-forming tendency and which are of a base-forming tendency.

To the casual observer such an epidemic as occurred on the German raider might have looked like a case of contagion or infection. No doubt there is contagion and infection in many diseases, but the abnormal conditions resulting from a clogged and badly fed system should more often be looked to as the first cause.

INFANTILE PARALYSIS

Infantile paralysis, as it is called, is a form of paralysis which occurs chiefly among young children, from a few months up to five years of age. Another name for it is *poliomyelitis,* derived from two Greek words which indicate that it is an inflammation of the gray matter of the spinal cord. The medical definition of

poliomyelitis is "inflammation of the gray matter of the spinal cord."

Infantile paralysis is an old disease but in epidemic form it is comparatively new in the United States. It is only within the last decade that it has become a reportable disease here, whereas, Scandinavia has had serious periodic epidemics since 1875.

Infantile paralysis in its acute stages is not as fatal as it seems, since in every instance the death is recorded, while many slight cases, which recover, may not be reported at all. The percentage of fatalities, as given, varies from five to twenty per cent. It is, however, a very grave disease since paralysis is likely to persist after recovery from the acute stage.

Symptoms—The disease usually begins with stomach and intestinal inflammation. Some have diarrhea and some have constipation. Among the marked symptoms are high temperature, profuse perspiring, white pasty tongue, headache, drowsiness and irritability, neckache, great pain in bowing the head, pains in the back, great weakness, and twitching of the muscles. The legs are sensitive to handling and later become paralyzed. It is often mistaken for meningitis or rheumatism.

In the disease the spinal cord has been invaded by a microscopic filterable virus. The indications are that the system is seeking to eliminate this virus by secretions of the mucous membrane of the intestines and especially the membranes of the nose and throat. The noses and throats of healthy persons who have been in intimate contact with acute cases may become contaminated with the virus and persons so affected, without becoming ill themselves, may convey infection to others, especially children. Dr. Simon Flexner says:

> "Having gained entrance to those easily accessible parts of the body, multiplication of the virus occurs there, after which it penetrates to the brain and spinal cord by way of lymphatic channels which connect the upper nasal membrane with the interior of the skull."

He also says:

> "Studies carried out in various countries in which infantile paralysis has been epidemic all indicate that the disease is conveyed by human beings."

And yet, according to the Chicago *Health Bulletin* of October 3, 1914:

> "In no instance did the special investigation made by the Contagious Disease Division of the Department of Health, Chicago, 1914, show that any of the widely separated cases had been in contact with any known cases of this disease either in Chicago or elsewhere."

Dr. Simon Flexner says:

> "Not all children and relatively few adults, are susceptible to infantile paralysis. Young children are more susceptible, generally speaking, than older ones; but no age can be said to be absolutely insusceptible. When several children exist in a family or in a group, one or more may be affected while the others escape or seem to escape. The closer the family or other groups are studied by physicians the more numerous it now appears are the number of cases among them."

The incubating period varies greatly but is usually about eight days. Probably the most dangerous period in regard to communication

is the acute period. There are cases of people becoming chronic carriers but as a rule the virus does not persist after about five weeks. Hence a six weeks' quarantine is regarded as practically safe.

Many seem to agree that aside from the occasional mechanical assistance of flies and other insects only human beings carry the disease. Accordingly in an epidemic, quarantine should include even the slightest forms of the disease and strict sanitary control of all who have come in contact with it. To prevent conveyance some recommend peroxide of hydrogen gargles. Kissing, coughing or sneezing are common means of disseminating secretions of the nose and throat, hence care should be exercised to minimize such distribution. Great cleanliness and conscientious consideration for the public welfare should be exercised. All objectionable household insects, especially flies, should be excluded as much as possible since they greatly assist the carrying of bacteria and poisons.

Causes—Of the various theories presented to explain infantile paralysis epidemics, none satisfies all the facts or gives any satisfactory first cause. Communicability or infection,

which seem to be a factor in one epidemic and not at all in another, may in some epidemics explain the prevalence of the disease, and yet they do not give any hint of the initial cause.

Flies can carry the virus and so convey infection and yet there have been epidemics in Scandinavia in winter when there were no flies.

Raw fruits and vegetables have been looked upon as possible initial causes of the disease, and yet bottle-fed babies, who are not likely to get such foods except orange juice have infantile paralysis more than other people.

One theory was that it was a race disease because Scandinavia had the first great epidemic of any magnitude in 1875 and has had serious periodic epidemics ever since. The fact that Minnesota and the state of Washington, where there are such large Scandinavian populations, have had many serious epidemics has lent credence to this theory. However, it does not explain the Buffalo epidemics, 316 cases in 1912; the notable epidemic in Vermont in 1894; nor the epidemics in New York City, 2,448 deaths in 1916.

Because of the great susceptibility to infantile paralysis among bottle-fed babies, the

Chicago Department of Health is now suspicious of cow's milk and as a preventive measure is urging mothers and nurses to boil all cow's milk five minutes. This theory does not explain the few rare cases in breast-fed babies. Besides it does not tell why this disease was not so serious previous to the last decade, during which infantile paralysis has become a reportable disease. Cow's milk has been in use from the earliest historical times.

Should we not inquire into what new habits we have acquired, which may throw some light on the problem? What is the bottle-fed baby given with cow's milk? Whether the baby is given modified milk, condensed milk, or a patent food combined with cow's milk, almost invariably sugar-of-milk or some form of artificial sugar extract is added. Aside from being an artificial extract itself sugar-of-milk is sometimes adulterated with pulverized cane or beet sugar extracts. Hence a large percentage of bottle-fed babies are fed upon an artificial product.

It was only during the eighteenth century that artificial sugar extract became a commodity. In the United States Department of Agriculture, Farmers' Bulletin, No. 93,

"SUGAR AS FOOD," we find the following statement in regard to the use of cane sugar extract at the end of the sixteenth century:

> "By many the new food was still regarded with suspicion, it was said to be very heating, to be bad for the lungs, and even to cause apoplexy. Honey was thought to be more wholesome, because more natural than the 'products of forced invention.'"

Previous to that it was regarded as a drug and was used in the preparation of medicines. There was an old saying, "Like an apothecary without sugar." At the present time more than two-thirds of the sugar crop is from the sugar beet, and the manufacture of sugar with its refining and bleaching processes by means of sulphuric acid poison, is now a chemical industry as much as is tanning and dyeing.

Artificial sugar extracts have an acid reaction upon the system, whereas, natural sugar, such as is found organically combined in correct proportions in many natural foods and mother's milk, has an alkaline reaction. This may be easily demonstrated by a nursing mother. Colic, nausea and diarrhea, and

other results of acid indigestion in the nursing baby may be practically controlled by her diet. This fact may be further demonstrated by adding sugar-of-milk to the food of a bottle-fed baby (notwithstanding the addition of lime water) and then omitting it.

The human system was intended to extract its food according to its needs from elements organically combined. When such elements are taken in the form of a refined product, like sugar extract, they tax the organs of elimination and are an irritant in the system.

The system naturally has a different way of eliminating artificial products in the winter than in the summer. In place of the feverish and catarrhal colds of winter there have been the inflammatory diarrheal diseases of summer, which have caused great infant mortality.

The mortality statistics of Chicago show a continuous increase in the number of deaths from diarrhea and enteritis from 1904 up to 1910.

At no time since 1910 has the mortality from diarrhea and enteritis been as great. Curiously enough in 1911, when the mortality fell from 3,511 deaths from diarrhea and enteritis in 1910 to 2,983 deaths, infantile paralysis be-

came so prevalent as to be a reportable disease,—11 deaths and 29 cases. In 1912 there was a marked rise in the number of cases of infantile paralysis, in Chicago, 106 more cases than the previous year, and in Buffalo, 307 more cases. In that same year, 1912, infantile paralysis became a reportable disease in New York City with 70 deaths.

During the last decade the pasteurization of milk has been very much advocated in both city and rural communities of the United States. Some cities have brought about the pasteurization of milk without any ordinance. For example, Buffalo, according to the Annual Report of 1916, has 90 per cent pasteurization without any compulsory law. Can it be that the growing practice, during the last decade, of pasteurizing cow's milk, which is later mixed with artificial sugar extract for the bottle-fed baby, has any bearing on the fact, that during the last decade infantile paralysis has increased to such an extent as to become a reportable disease?

We have seen that artificial sugar extract causes acute inflammation of the mucous membranes of stomach and bowels as evidenced by nausea and diarrhea. The pasteurization of

milk makes it more or less constipating. The further heating of such milk preparing it for the baby, no doubt increases this tendency. Accordingly whatever poisons are produced in the system by artificial extracts are not allowed their natural and adequate outlet from the system through the bowels.

Ice cream, which (whatever adulterants it may include) usually contains artificial beet sugar extract, is also constipating. The first effect of ice cream is to cause stimulation of peristaltic action, followed by the more lasting constipating effect—a marked torpidity of the bowels. The months during which infantile paralysis has become so prevalent in the United States as to include even adults, are from the last of May to December. The taking of ice cream in large quantities is a warm weather habit which persists until the real cold weather comes. Besides the above mentioned torpidity, it produces a peculiar pallor of the skin, indicating internal congestion.

In this connection the experience of cattlemen and meat inspectors in regard to the effect of feeding frozen sugar beets is important as may be noted from the following quotation from the *Illinois Farmers' Review:*

"Paralytic symptoms have often been seen in animals fed almost exclusively upon sugar beets, or sugar beet tops. Meat inspectors at the slaughter houses report that cattle fed large quantities of sugar beets show mucous membrane of the stomach and bowels of a dark color, soft and easily torn from the muscular wall. After several years of observation of the feeding of sugar beets I am satisfied that neither the beet nor the tops should be fed without at least an equal proportion of hay or some other forage, and that beets or their tops that have been frozen and then thawed out are not only injurious but dangerous at all times."

The acid condition induced in the system by the taking of artificial sugar extract, besides weakening the tissues, undermines the bones, especially if the natural outlet for such poisons is checked by the taking of the above mentioned constipating products. In the making of artificial sugar extract from the cane, beet and the like, sugar is reduced to a highly refined extract separated from the bulky mineral parts, with which it was organically combined. It consequently has a great affinity

for water and other minerals, hence the usually attendant morbid thirst and morbid craving for minerals (even chalk and dirt) evinced by some children who take much artificial sugar. It has been demonstrated that artificial sugar has a great affinity for calcium —"is calcium hungry"—and, having used up all the calcium in the other food consumed, draws calcium and other minerals from the bones, undermining the entire bony structure of the body. This may explain why spinal curvature, which is usual in infantile paralysis, (not to mention decayed teeth, tuberculosis of the bones, etc.) is so much on the increase.

All seem to agree, that the indications in infantile paralysis are, that the entire system becomes permeated with the virus before the skull and spinal cord is invaded. This seems to be what would naturally take place if the main organ of elimination for such poisons were incapacitated by constipation. The other organs of elimination would be unduly taxed. If the lungs perform a large part of this elimination they become inflamed. Pneumonia frequently accompanies the acute stage of infantile paralysis. The skin likewise helps elimination by means of profuse perspiration.

Seasonal, climatic and weather changes such as the warm days in August followed by cool nights, no doubt tend to check the work of the skin and throw the work of elimination in upon the mucous membranes of the nose and throat. Physicians agree, that the indications are, that these membranes in the acute stages of the disease are secreting a virus and seeking to eliminate it from the system. Is it not quite likely, that, what seems a multiplication of the virus on the nose and throat membranes until it extends to the interior membranes of the skull, is merely the reinforcement of it from constant additional secretions? Would this not explain why some persons are very susceptible to contamination from this virus and others are apparently immune?

A misplaced spine like any other dislocation, would necessarily induce inflammation and would tend to draw inflammation from other parts of the system. If, as is likely, this involves the gray matter of the spine, we have the condition, from which so-called infantile paralysis derives its scientific name, *"poliomyelitis."*

Treatment—All the treatments aim to assist

elimination. Some give hydropathic treatment to reduce the fever. Enemas are useful, not only to empty the bowels, but to supply water and reduce the fever. Lemonade and other fruit juices, which help elimination, without artificial sugar or other unnatural additions, should be taken plentifully. Natural spring water at moderate temperature should be taken every hour. The elimination of toxins should be aided in every natural and harmless way. All artificial foods and extracts such as meat broths, beef extract and artificial sugars should be omitted, since they tax the organs of elimination. Even if it should be established ultimately that the taking of such artificial foods and extracts have no bearing upon the cause of the great necessity for elimination in this disease, the labor of elimination would, at least, be lessened. Natural habits of eating and drinking could result only in benefit to the general health. A good physician and nurse should, of course, be employed at once.

THE MISUSE OF SURGERY

Every normal person has adenoids, just as ormal person has tonsils. It is the in-

flammatory condition and consequent enlargement, or sponginess, of adenoids which has led to the prevalent belief that adenoids are always abnormal, or that their presence is in itself a disease.

The too ready removal of adenoids and of tonsils are among the most familiar misuses of surgery as applied to children's diseases. One great cause of enlarged adenoids (evidenced by mouth breathing) and of enlarged tonsils is starch indigestion from the use of "pappy foods," and the indulgence in unnatural extracts, especially artificial sugar. The use of the latter extract is one of the great causes of tonsilitis and kindred ailments. In childhood up to about the age of twelve, it is not at all abnormal for a child's tonsils to be somewhat large. Therefore any inflammatory condition in the system if it results in swollen tonsils, is readily felt. This is a great safeguard of children. It is now recognized by many able physicians, that the tonsils have a germ destroying function. *Advocating the removal of tonsils, unless their diseased condition cannot be remedied by natural means and is a menace to health, is like advising the killing of a sentinel who stands guard to warn of the*

presence of an enemy. As is usual, it is not the symptoms, the swollen tonsils, that are the enemy, but the conditions that they indicate and to that our attention should be directed by seeing that the child's blood is not being poisoned by foul air, bad water, bad milk, cream, or unnatural products, especially the unnatural extracts in daily use. We see one generation after another grasping some new grain of truth, and, in its zeal to find a panacea or some easy escape from the consequences of self indulgence, placing faith in the artificial, and forgetting the teachings of the great philosophies of the world, which offer no "royal road" to happiness but teach the necessity of obedience to Nature's laws.

Let us, therefore, whenever we stand at the parting of the ways, choose the path of obedience to Nature's laws, which must lead us more and more into the light of pure, true living where natural Beauty, Truth and Love are Supreme.

ADDENDA

COMMERCIAL SUGAR EXTRACT

(*See page 13*)

THE following is quoted from "Food Products," by Henry C. Sherman, Professor of Food Chemistry, Columbia University.

"Until relatively recent times sugar was too expensive to be used freely by most people but with the development of the industry and the cheapening of the product the consumption of sugar has increased at an exceedingly rapid rate.

"The thoughtful student of food problems must regard this development with mixed emotions. The cheapening of a staple article of food, which is almost universally popular and which like the refined sugar of commerce, is of uniform and well-known composition and practically free from danger of adulteration or harmful deterioration, would be a source of great satisfaction but for the fact that refined sugar constitutes an extreme case of a one-sided food, its sole nutritive function being to serve as fuel so that, as the energy requirement of the body is met to a larger and larger extent by the consumption of refined sugar there is a constantly increasing danger of unbalancing the diet and making it deficient in some of the substances which are needed for

the building and repair of body tissue and for the regulation of physiological processes.

"The fuel value of sugar is about 1800 Calories per pound, so if as estimated the consumption of sugar in the United States now amounts to 85 pounds per capita per year, the energy obtained from eating sugar must amount to about 420 Calories per capita per day. If the per capita energy requirement be estimated at about 2000 Calories per day it follows that about one fifth of the energy requirement is being met by eating sugar (of course not all of this sugar appears on the table as such) and that the intake of protein, phosphorous, calcium, potassium, iron, and other essential elements, and of such important though imperfectly understood substances as the lipoids and vitamines is on the whole about one tenth lower than would be the case if the sugar were reduced one half and the energy now derived from sugar were supplied by an increased consumption of the other articles of food. Are we to assume that the ordinary dietary of the people of the United States furnishes such an abundance of all the essential elements and each specific necessary compound that a difference of 10 per cent in the intake is of no consequence? The investigations of recent years indicate clearly that no such assumption is justified. As regards some of the elements such as calcium and phos-

phorus there is very little margin of safety in the majority of American dietaries."

PREGNANT WOMEN AND CHILDREN MOST SUSCEPTIBLE TO BAD EFFECTS OF EXTRACTS

(*See page 138*)

The indications are that vigorous adults and older children, especially those living an active outdoor life, have more or less toleration in dealing with extracts, whereas pregnant women, who must eliminate for two organisms, and the young, who are taxed by growing, are the most susceptible to the injuries of such added burdens.

MILK NOT NATURE'S FOOD FOR THOSE WHO HAVE PASSED THE SUCKLING PERIOD

(*See page 143*)

Nature supplies milk to Mammals,— including the human,— only during the suckling period. If the Universe is correctly planned,— and it is a sacrilege to assume that it is not,— milk is not needed either before or after that period, or else Nature would have supplied it in a more direct way, obviating the dangers of milk contamination.

Recent scientific studies substantiate the conclusion, that milk is not a natural food either for the pregnant mother or for the child after about nine months. G. von Bunge has shown that during pregnancy the mother requires a

diet rich in organically combined iron, so that besides supplying her own needs she may supply enough iron to be stored in the liver of the unborn to furnish its needs during the suckling period when, before the teeth come, it must depend solely on a food practically lacking in iron. During the nursing period the young often show signs of anemia although the mother's milk is good, merely because the mother's diet during pregnancy failed to supply the unborn with enough iron. Consequently milk which is very apt to satisfy the appetite and result in the taking of less of other foods which are rich in iron, is not to be recommended during pregnancy.

After the nursing period, or at about nine months, when the teeth usually are coming, the child having exhausted its supply of iron is in great need of foods containing iron,— not to mention other minerals,— among which foods are eggs, fruits, vegetables, grains, etc.

If for any reason a baby under about nine months or an invalid must be supplied with cow's milk, it is most important that the milk should not be tampered with any more than is absolutely essential. Nature intended that such food should be taken absolutely sterile, mixed with large quantities of saliva, and blood warm. Extreme changes in temperature, as in freezing and boiling, bring about chemical changes in the milk and injure it. Boiled milk

induces hemorrhoids or piles. Severe cases of bleeding piles, which have persisted in spite of repeated surgical operations, have been permanently cured by omission from the diet of boiled milk or any food containing it.

Dietary studies have proven that when "liberal amounts" of milk were added to the diet of students "a corresponding decrease in the amount of other foods consumed" was noticed. Depending on a food so lacking in iron and, as a result, reducing in the quantity of foods rich not only in iron but in other essential minerals, vitamines etc., is sure to bring on anemia, malnutrition or other deep-seated constitutional disorders.

Those who insist that children need milk all through childhood place great emphasis on the fact that milk is rich in lime. Many prominent medical writers believe that a deficient supply of lime in the diet results in absorption of lime from the teeth and from lime-containing tissues, thus lowering nutrition. Dr. H. O. Beeson, in "Lime Metabolism" in the "Denver Medical Times," writes as follows:

"These conclusions seem to be based chiefly upon the daily loss of lime and the theory that the loss must be replaced by means of the food supply. This daily loss is said to be about 17 grains, and it is assumed that this loss must be replaced or disorders will ensue, because lime enters into the composition of cells. Lime

is an elementary constituent of every cell. Without it cells could not exist and perform their functions. Like the elements of the compounds of general chemistry, the lime in a given cell always exists in definite proportion. An alteration in this relative proportion alters the functional capacity of the cell. Hence normal action could not be expected. A deficiency of cell constituents in the nutritive pabulum will lower the function of the cell. An over supply will stimulate cells to increased activities, leading to their ultimate and inevitable exhaustion. Normal function can only be expected from cells normally nourished. This being true, the greatest question is that which concerns the normal proportion of elementary cell constituents, and this question overshadows those of relative waste and intake for the reason that improper quantities of the mineral organic elements affect functional activities detrimentally, and when thus affected cells are not able to functionate normally and even proper quantities of fats, carbohydrates and proteins can not be properly disposed of in metabolism.

"The evidence seems to point to an excess, rather than to a deficiency, as the main cause of the disorders of the teeth and other disturbances to which reference has been made.

"It would seem consistent to consider the amount of lime salts found in the blood to be

our best criterion as to the proper amount to be supplied in the food, in order to maintain the correct balance between the intake and the output. Now the total ash of the blood amounts to 0.8 per cent, more than half of which is sodium chlorid, the remainder consisting of the salts of lime, potash, soda and magnesia, the last two in smaller amounts.

"Is it consistent to claim that the blood can be forced to contain more than that proportion without detriment? Neither logic nor practical conditions can demonstrate that any excess of the mineral organic elements in the food is without harm. Human experience shows conclusively that the peoples that live on a diet conforming in mineral organic content to approximately that of the blood, remain practically free from internal disorders resulting in ultimate degenerations such as dental caries, atheroma, arteriosclerosis and calcareous deposits. With these should be included biliousness, constipation,—which is essentially a disorder of metabolism,—and catarrh, also fundamentally due to metabolic deficiencies.

"Examples of such peoples are the American Indian, living for centuries on a principal meat diet, containing an organic mineral salt content approximating that of the human fluids; the Asiatics, whose diet consists mainly of rice, also low in organic salts of mineral essentials.

"Compare these foods of low ash composition with whole grain preparations, the pulses, cow's milk and its derivatives, and the disorders constantly suffered by those that habitually use the latter class due to cell exhaustion resulting from prolonged cell stimulation. The people of Europe and America habitually use the foods high in organic mineral salt content, and present the lamentable example of the wisest and at the same time the unhealthiest animals in creation. The ignorant savages, using foods low in these compounds, who know nothing about the so-called science of cooking, enjoy as good health as the wild animals. To say that it is because they live in the open air is begging the question. The American farmer works in the open air and lives upon the freshest of farm products, yet statistics and experience among them prove that the American farmer and his children suffer in equal if not greater proportion from metabolic disturbances and their results than the city dwellers.

"Over stimulation leads to exhaustion inevitably. The essential mineral organic salt compounds are stimulating to the cells because they constitute a part of their composition. They stimulate metabolic action. That is why they are essential. To say that any kind of stimulation can be employed beyond the normal, without harm is, to say the least, inconsiderate.

"Mother's milk,— that food which is nearest ideal in composition of all of the foods,— contains about ¼ of these salts found in cow's milk. Without doubt mother's milk comes nearer meeting the demands of metabolism than any food we have. And with its small mineral salt content it is only suitable for the use of human beings at the time of life when the greatest amount of these elements is required, that is, when the skeleton and additional cells are to be built up. In later life, when the demands of growth are over, we need less and less of these elements, and especially of lime. Consider the chalky deposits in the heart valves and the walls of the larger arteries which are prone to occur in the aged, suffering from degenerative changes."

EXTRANEOUS SALT

(*See page 118*)

Those, who object to the use in the diet, of inorganic salts, believe that the wants of the physical organism are adequately supplied by the organic salts in human foods, such as fruits, vegetables, grains, etc.

On the other hand, Dr. Harvey W. Wiley writes as follows:

"Common salt exists in very small quantities, if at all, in vegetable foods. It is potash and not soda which is found in vegetables. The potassium ion is far more poisonous than the sodium ion. The reason the herbiverous

animals, such as the deer, and the buffalo, the cow and the horse, crave salt is because the sodium ion eliminates the potassium ion by substitution and thus promotes health. Moreover, the fluids of the body must be saline and soda is peculiarly suitable to produce salinity."

Dr. H. O. Beeson, however, in "Obesity and Starvation" in "The Western Medical Times" writes:

"All physiologists agree that 95 per cent of NaCl (common salt) ingested with food is eliminated within twenty-four hours unchanged, more than half leaving the body inside of twelve hours. And from the fact that many tribes of human beings with physiological processes identical with ours have lived hundreds of years on a saltless diet without detriment, the claim is well founded that we do not need the enormous surplus that we habitually consume, and that it is distinctly harmful, and should be so taught by the medical profession. Bunge's theory of the use of salt being related to the potash content of foods will not stand analysis."

Children raised on a diet, in which no extraneous salt is employed in the cooking, seem to crave added salt with meat, especially fat meat. This may be due to the fact, that meat eaten as most civilized peoples usually eat it,— taken alone without blood or bone,— creates an instinctive craving for salt, which con-

stitutes a large part of the blood, which was naturally combined with it, and which carnivorous animals generally devour in combination with the flesh and bones of their prey.

The best way seems to be, to respect the rights of all by at least leaving out extraneous salt in the preparation of foods for the table, serving it, if at all, only in salt cellars so that each individual may have the opportunity of following his own instinct in the matter. Recognizing the tendency toward the excessive use of extraneous salt children should be cautioned and restrained in its use.

WHOLE WHEAT FLOUR

It is well to have a hand-mill for grinding the whole grain just before baking. Suitable mills for this purpose or the real whole wheat flour, may be obtained from Berhalter's Health Food Store, Chicago, or from other health food stores.

Comments on This Book

The following named Physicians have read "Natural Food and Care for Child and Mother," and have expressed themselves in regard to it.

Dr. Winfield Scott Hall, President of "The Child Conservation League of America," Professor of Physiology, Northwestern University and lecturer on dietetics, Mercy Hospital School for Nurses and Wesley Hospital School for Nurses, writes:

"I spent most of the last twenty-four hours reading the book. . . . "You have written an admirable book that will be of incalculable value to mothers,—many thousands of them, I hope. . . . "I am charmed with your book. It is evidently written out of the fullness of experience of a most successful Mother. You have made the world of Mothers your debtor in this book."

Dr. John P. Sutherland, Dean of "Boston University School of Medicine," writes:

"I have enjoyed reading the proof-sheets of your book, and thank you for the opportunity. I have read the book more thoroughly, perhaps, than you expected me to, and I must express myself as being in close accord with

almost every view, opinion, and suggestion it contains. The principles upon which your opinions and advice are based I wholly agree with. I do not see how the book can be anything but a real help to *all* young and older mothers, housewives, providers, cooks, and all men and women who have to *eat.*"

Dr. Carl Strueh of "Dr. Strueh's Sanatorium and Health Resort," McHenry, Illinois, writes:

"I have read the manuscript of your book with deep interest and must confess that to my mind you have every reason to be satisfied with and proud of your accomplishment. I know what it means to cover a great subject concisely as you have done, and represent it in dignified and appealing language which everyone is able to understand.

"The reading of your manuscript was of great interest, and instructive to me. Once more my sincere congratulations on your admirable accomplishment."

Dr. H. O. Beeson of San Bernardino, California, and of the Medical Department, of "The Santa Fe Coast Lines Hospital Association," writes:

"I have read your book with much interest and profit. . . " "It fills a field not occu-

pied by any book, to my knowledge. Its language is free from technical terms, and its diction is plain and easily understandable.

"I am glad somebody has appeared that is inclined to give some rational consideration to matters of logical diet, and the insidious destruction of health by errors of food selection and methods of eating.

"It has required more than one hundred years to convince people that alcohol is harmful to use as a beverage. It will take infinitely longer than that to convince the masses that correct living is more holy than public professions of piety. . . . I received a letter from a doctor, . . . who stated that he had read several books on diet, and they seemed to lead nowhere. My reply was that 'the reason that they seemed to lead nowhere was because they started from nowhere'."

"I thank you for the flattering opportunity to read your book."

Dr. Geo. E. Lyon of Los Angeles writes:

"I have read your book, 'Natural Food and Care for Child and Mother,' with much interest, and I cannot praise it too highly for the use of young mothers, and those who are interested in the subjects so well covered by you.

"Your treatment of the subject of foods and diet is especially valuable in my opinion. Hop-

ing your book will have the wide circulation it deserves I remain, very truly yours."

Dr. James P. Pursell of Quincy, Illinois, writes:

"It has been a great pleasure to be permitted to read the advance copy of so excellent a book. It is most timely and should be in every home. The advice, if followed, will result in an uplift to humanity, happier homes and increased immunity from disease."

Dr. Joseph A. Meek, of Chicago, writes:

"I have been reading your book with great interest and find it very suggestive.

"I have been looking for faults and flaws in your teaching but as yet have discovered nothing I should wish to change. . . . I am well aware your principles will stand the test when applied intelligently and scrupulously in practice. Even their partial adoption might bring large compensation. But why adopt a part when all is available? Your system is symmetrical and the withdrawal of apparently insignificant parts could disturb the balance. The full test is the fairest and safest and is the only way of settling the questions involved, without argument."

Dr. Harvey W. Wiley of Washington, D. C., writes:

"Your plea for whole cereals is one which should meet with hearty acquiescence from every mother who really desires the best for her child. Your campaign for fruits and vegetables, also I heartily endorse. While not an expert on such matters I think your chapters on care for children, and all of what you say concerning the handling of children are worthy of commendation and praise. . . "I fully agree with you in your effort to restrict the use of sugars in children's foods;"

Dr. Robert F. Minor, of Chicago, writes:

"I cannot commend too highly your book, 'Natural Food and Care for Child and Mother.' If the whole World could be persuaded to live according to the principles and teachings set forth therein, it would be a great blessing to humanity."

G. Stanley Hall, President of Clark University, Worcester, Massachusetts, writes:

"The book seems to me to be a well-balanced and well-informed presentation of a very important topic. I am glad that you have one chapter on pre-natal care. I have kept tab on this literature for many years and I know of no such comprehensive and practical treatise on the subject."

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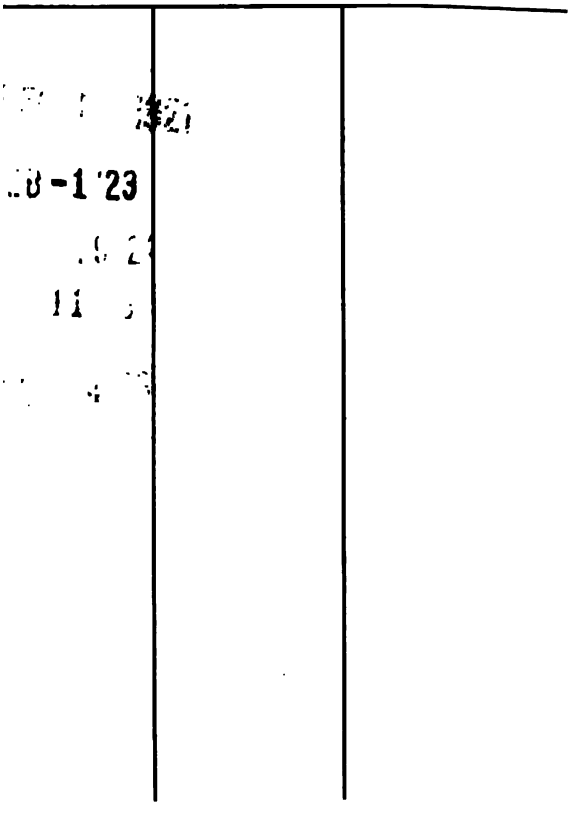

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1919 for child & mother

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Dr. Catlow (H. Barnes)	DEC 1 1921
L. Sloan	FEB 1 '23
Dr. Meyerstein	FEB 19'24
Mr. Thuson	MAY 11 '25
Mr. Thuson	DEC 14 '26
(Thuson	